

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

GLEANINGS

IN BEE CULTURE

CONTENTS

MARKET QUOTATIONS.....	1136
STRAWS, by Dr. Miller.....	1143
PICKINGS, by Stenog.....	1145
CONVERSATIONS WITH DOOLITTLE	1146
EDITORIALS.....	1147
Sidelights from the St. Louis Convention.....	1147
The Chicago-Northwestern Convention.....	1149
Immensity of the Bee-keeping Industry.....	1150
GENERAL CORRESPONDENCE.....	1155
Does Clover Winter-kill?.....	1155
When Clover Yields Honey.....	1156
Hoffman Frames.....	1157
Spacing Frames.....	1158
Bees on Shares.....	1158
A Bunch of Questions.....	1159
HEADS OF GRAIN.....	1160
Size of Winter Entrances.....	1160
Will an Apiary Contract Foul Brood?.....	1160
What to do with Unsalable Chunk Honey.....	1160
Stealing Bees; the Remedy.....	1161
Ventilating Through the Hive-bottom.....	1161
Sciatica and Muscular Rheumatism Cured.....	1161
Bee-stings and Rheumatism.....	1161
The 4x5 Sections.....	1163
How to Ship Bees from Canada to Jamaica.....	1163
Best Time to Requeen.....	1164
Hive-rabbits	1164
Number of Colonies to a Locality.....	1164
A Swarm of Drones	1165
OUR HOMES.....	1167

THE A.I.
MEDINA



Root Co.
OHIO

Eastern Edition.

ENTERED AT THE POSTOFFICE, AT MEDINA, OHIO, AS SECOND-CLASS MATTER.

Get Our Discounts!

G. B. LEWIS CO. AND DADANT'S
BEE-KEEPERS' SUPPLIES.

BEE SWAX WANTED AT THE HIGHEST
MARKET PRICE.

LEWIS C. & A. G. WOODMAN,
Grand Rapids, Mich.

Hilton's Chaff Hive

fortifies your colonies against sudden changes of weather in spring and fall. Only a little extra work necessary to change them for winter, and make them frost-proof. This work can be put over until late in November or December, after the busy time at this season of the year.

The double cover with ventilators enables the bees to continue work in supers during the intense heat of summer, where the hives, of necessity, are exposed to the sun during the middle of the day. Ask for copy of report from Michigan Agricultural College, regarding "Double v. Single Walled Hives."

A large part of many apiarists' time is consumed in shifting from winter to summer, and summer to winter quarters, which could be well spent in caring for a larger number of colonies. This is overcome by using Hilton's Chaff Hive. Write for catalog. Root's Goods at Root's Prices.

4 Per Cent Discount for December.

George E. Hilton, Fremont, Mich.

DISCOUNTS

For the New Season---for Cash Orders.

During October, 6 per cent.

" November, 5 "

" December, 4 "

And you get Root's Goods. Tell us what you want, and we will tell you what it will cost. Our Catalog for the asking.

M. H. Hunt & Son, Bell Branch, Mich.

GLEANNINGS

A JOURNAL DEVOTED
TO BEES
AND HONEY
AND HOME
INTERESTS.

BEE CULTURE

ILLUSTRATED
SEMI-MONTHLY
Published by THE A. ROOT CO.
\$1.00 PER YEAR MEDINA, OHIO.

Vol. XXXII.

DEC. 15, 1904.

No. 24



THE REPORT of the Central Association of German Bee-keepers for 1903 gives a membership of 37,242, and the present membership is about 40,000. Talk about our National being the largest in the world! But ought it not to be so?

I'VE BEEN READING with much interest the 1904 edition of Simmins' Modern Bee-farm, and a number of new kinks have paid well for the reading. [I have had an opportunity only to glance at this hastily; but I came to the conclusion that it is a practical and interesting work, and I hope to give it an extensive review. I desire to say in this connection that Mr. Simmins was the originator of one or more methods or devices that have been exploited in this country as new.—Ed.]

G. M. P. wants to know if there's some way he can deal with sections troubled with worms, other than to resort to sulphur or bisulphide of carbon, only a few of his colonies being Italian, and also asks whether he did right to pick out all the infested sections, supering them, and putting on the Italian colonies to clean up. No; when you have all colonies Italian or hybrid you'll have little or no trouble with worms in sections, and till then when eggs have been laid by the moth in sections there's nothing for it but to use sulphur or bisulphide, *except* the plan you have taken, which, so far as I know, is original and bright.

WHEN THE FIRST installment of Rocky Mountain stuff from the pen of J. A. Green appeared in GLEANNINGS, I said, "That's good, but can he keep the pace?" Now that he's been four months on the track I don't see that he's a bit jaded or winded, and he's making just as good time as ever.

Yes, Jimmie's all right. [We are very well pleased with Mr. Green's work. His extensive travels over the country, his habits of close observation, and his fearlessness in speaking out his mind, make him indeed a valued contributor.—Ed.]

THE QUESTION is raised, p. 1099, whether the food elements contained in honey and not in sugar are necessary. Necessary for what? They are most emphatically necessary for the continued existence of the colony. Not a single larva can be reared on sugar alone, if I am rightly informed. [I arise to a point of order, doctor. We were not talking about whether the food elements contained in honey and not in sugar were or were not necessary for brood-rearing. Where the matter came up in the first place, p. 1056, you will see we were talking about whether those food elements were necessary for a winter food. See your own Straw on p. 1055. There can not be any possible question but that honey does contain some food elements not in sugar necessary for brood-rearing.—Ed.]

ARTHUR C., of the Miller family, p. 1112, raises doubts as to the tenability of the obscure-vision theory holding bees at home two weeks, and the editor says possibly obscure vision and general weakness, together with Dr. Phillips' suggestion that young bees may follow their older sisters by scent. I think you'll cut out that "general weakness" business when you remember the miles and miles that nurse-bees will go with a swarm. Neither will the following-scent nor the obscure-vision theory carry in the case I mentioned, p. 923. Bees five days old, with no older sisters to follow, were strong enough, and could see well enough, to bring in good loads of pollen. What objection is there to the old explanation that bees, either by instinct or necessity, divide up the work according to age? [You are probably right, but I arise to ask how you *know* the bees were only five days old.—Ed.]

J. M. H. asks my opinion of the following way of dealing with laying workers: Fasten in a hive one to three frames of hatching brood (presumably with adhering bees) and

a laying queen. Next day set this hive containing the queen in place of the laying-worker colony, carrying the latter, after thoroughly smoking, a long distance away, dumping and brushing all the bees on the ground, leaving a small box for any bees that wish to cluster in, returning this to the colony a day or two later. I think the plan would work well if one can afford the laying queen and brood; but it would be less trouble, after forming such a nucleus, to give it a frame of bees from the naughty colony, then another frame a day later, and the rest still later. But it must still be remembered that, nine cases out of ten, the best thing is to break up the colony, distributing the combs and bees to other colonies.

PICKLED BROOD disappeared on the introduction of fresh blood by A. J. Halter, says the editor, p. 1111. Look again; the only fresh blood I find was that which seems to have brought with it the disease. As nearly as I can make out, Mr. Halter thinks a cure came from letting the bees rear a new queen, "all brood hatching before young queens began to lay." [By "fresh blood" I meant the introduction of another queen. In Mr. Halter's third paragraph he tells about "letting them rear queens." This indicated to me that the old queen was taken out. On rereading this third paragraph I am not entirely sure whether Mr. Halter allowed the old bees to have their old brood or not. He says he made shook swarms, putting them on foundation; and I infer now and inferred then when I wrote the footnote in question that he gave brood—namely, "fresh blood" "from various hives." Mr. Halter will please straighten us out.—ED.]

EDITOR HUTCHINSON puts this conundrum: "Suppose six men are to be nominated as candidates, couldn't 'wire-pulling' elect one of these men just as easily as it could *nominate* a man? Hardly. Fewer votes are cast for nomination than for election, and it is easier to control a small than a large number. But I think that doesn't meet the case. I object to having as *sole* candidates the two who receive the most votes for nomination. The number of votes for nomination—the informal ballot, if you please—will be much smaller than the number at the formal ballot. Indeed, the number may be very small—so small that not such a great deal of activity in the way of wire-pulling would be needed to secure a nomination; and whether there were any wire-pulling or not it would be better that each member should be entirely free to vote for any one he chooses. I am in entire accord with Bro. Hutchinson when he says: "There ought to be some honorable, *public* method of discussing candidates in advance of nomination." The place for that is in the bee-journals, and the time to begin it, perhaps, with the beginning of the year. Then it might be well to have an informal ballot, and the list published of all names voted for and the votes cast for each. May be some-

thing else would be a good deal better, and the whole matter should have full, frank, free, and friendly discussion.

J. A. GREEN, p. 1102, scores eastern bee-keepers for taking for granted that every one has an intimate acquaintance with phosphate-sacks. Please don't come down on 'em too hard, my good friend. If we are to keep quiet about every thing unless we're sure that all the world will understand it, we'll not be likely to tell much. Probably it wouldn't help a great deal to be told the material of old phosphate-sacks, for those who can't get the phosphate-sacks are not likely to be benefited by the knowledge; and those who can't get them don't need to know. But say, Mr. Editor, what are phosphate-sacks made of, any way? [Phosphate-sacks, so far as I know, are made of the same material as any other sacks for holding grain or produce. The material, however, may vary at different times. We found that phosphate-sacks, old burlap or new burlap, will answer the same general purpose for the fuel. We were expecting to catalog this Coggsball fuel in the form of cartridges, but found we could not buy up enough old phosphate-sacks or old burlap to make it advisable to put it up for the general market. New sacking or burlap is altogether too expensive; but every bee-keeper can usually find enough for his own use.—ED.]

THE EDITOR wants to know whether Italians are more immune to pickled brood than other bees, p. 1111. I don't know about pickled brood; but as to foul brood there has been considerable testimony from Australia and Europe in favor of Italians, and a strong word from England is found in the 1904 edition of Simmins' Modern Bee-farm. He says, "Nothing is so disheartening to the experienced bee-master as to see a bee-keeper clinging to native bees in a neighborhood where foul brood is prevalent . . . they are helpless in the face of foul brood, and will not even work with their owner when he attempts to cure the malady." [I think there can be no question that Italians are more immune to black brood than black bees. The evidence that you present from across the water shows that they can also resist foul brood better. The natural assumption would be that they could also better withstand pickled brood. Why this should be I am not able to explain unless because they would be less inclined to rob. Years ago, when we were Italianizing from a lot of black bees, I noticed that the "black rascals" as we called them were much more inclined to steal than our yellow bees. Possibly this might account for their greater susceptibility to contagious diseases.—ED.]

IT WAS DECIDED years ago, says the editor, p. 1104, that the slight gain from mid-winter flights of cellared bees didn't pay for the trouble. That assumes that there was a slight gain, and that was not the belief. It was the belief that such flights were a damage, making the bees uneasy afterward,

although why a mid-winter flight should help outdoor bees and hurt cellared bees was never explained. I've experimented a little for the past winter or two, but can't say positively whether winter flights for cellared bees are good or bad. I'm on the fence, and I think, Mr. Editor, that very few are on your side of the fence. What was the date of your carrying out, that you thought worked so well? [The discussion in regard to the advisability of taking bees out for mid-winter flights, and returning them, took place along about the time I was coming out of school, and after I had begun to take editorial charge of this journal. It naturally made a strong impression on my mind. The articles were scattered over a long period of time; but my recollection is that the general consensus of opinion was to the effect that there was a slight gain, but not enough to warrant the expense and trouble. But whether a slight gain or not, that does not matter. We both agree that the general sentiment was against it. I am very well satisfied that this conclusion, at least for some localities, was entirely wrong. If it is a good thing for outdoor-wintered bees to have a midwinter flight (and I do not think there is any one who will dissent from this), it follows that it must be beneficial for indoor bees, provided the weather conditions are such as to permit it. In your locality, and in that of Doolittle, and perhaps in a majority of places where there is continuous cold from fall till spring, I do not see how it will be practicable to give such a flight. But this would not prove that such cleansing would not be beneficial if it could be had. In our locality, and in many others, there are occasional warm flight-days either in February or March.

Now in answer to your question, we give our bees one such flight, sometimes two, along in February if we can. If there is no warm day suitable, we give it to them in March. The point I desire to make is this: Where the winters are not so extremely severe, permitting flight days, the bees, because of the warm weather, become uneasy in the cellar, overcharging their intestines, and therefore they must have a cleansing. I do not see how there can be a conflict of opinion if we take into consideration the matter of locality. But we will take for example the case where the winter is severe. Suppose in your case, in February you have a warm balmy day. Now let me strongly urge that you carry half of your bees outdoors for a flight and take them back. If you do not notice any improvement in this half in the way of added quietness and a disposition to stay in the hive, I will buy you the best silk hat I can find in Chicago. One more point: We do not begin to have the number of dead bees on our cellar bottom that we find in the bottoms of some cellars where no midwinter flight is allowed, or we will say possible. I am coming to believe that it is all wrong to conclude that an inch of dead bees all over the cellar floor is a mass of superannuated bees that would have died any way.—Ed.]



To wreak its vengeance on a man,
A bee one day engaged;
It gained its point, but lost its point,
And died in misery.

—From the French.

The editor of *Le Rucher Belge* inveighs strongly against the use of tobacco in smokers, owing to its bad effect on bees. He says, backed by Mr. Weygandt, in the "Imkerschule," "If you are not willing to renounce tobacco in favor of your bees, do it in the interest of your own health."

If there is any one plant that it will pay to raise for honey alone it is raspberry, especially the red kind. The quantity of honey yielded by it is great, and for quality it is at least equal to any ever tasted. It stands in a rank all by itself. But when we add to these desirable characteristics the great abundance of refreshing fruit it produces, and on almost any soil, we may say it certainly deserves all the attention it gets. This seems to be the opinion on the other side of the ocean too.

Le Rucher Belge says certain communes in Belgium think seriously of levying a tax on bee-keepers who move their bees to such communes to get the benefit of a honey-flow. This seems to be strongly opposed by others, on the ground that bee-keepers are a great benefit to such localities, as they necessarily have to hire considerable help there on arrival, besides spending a nice bit of money there during their stay. These advantages, they claim, would all be lost if the bee-keepers were taxed, as then there would be no incentive to go to such places.

Considerable honey is produced in Europe. According to *Handels Museum* the annual crop from that continent, leaving out Italy, is as follows, together with the number of colonies kept. I rather suspect that European statistics are far more reliable than those obtained in the United States. The figures stand:

Germany leads off with 1,910,000 colonies and 20,000 tons of honey; Spain has 1,690,000 colonies and 19,000 tons; Austria, 1,550,000 colonies and 18,000 tons; France, 950,000 colonies and 10,000 tons; Holland, 240,000 and 2500 tons; Belgium, 200,000 colonies and 2000 tons; Greece, 30,000 colonies and 1400 tons; Russia, 110,000 colonies and 900 tons; Denmark, 90,000 colonies and 900 tons.

Our old friend the *Canadian Bee Journal* has not cut as much of a figure in these columns lately as its merits deserve. Its pages

are well filled with matters of interest to all bee-keepers, and Mr. Craig is doing all he can to merit the support he receives. As that is the only bee periodical in the English language, north of the United States, it should have a good support. This leads me to ask what has become of its founder, Mr. D. A. Jones, who shone so brightly in the constellation of the Bee-hive some twenty years ago. Just 25 years ago he and Prof. Frank Benton were in Medina preparatory to their long trip to Asia in search of new races of bees.

A writer in the *British Bee Journal* says:

"Having read about birds, when catching bees for food, carrying off drones and not workers, my interest was aroused in the question of birds and bees, and I shot several birds seen flying about my hives one day when bees were on the wing, but none of the birds killed (including swifts, swallows, and martins) showed any trace of having captured bees, either workers or drones. I found lots of small flies. Twice this year I have watched the common house sparrow snapping up bees. I drove off the little marauders before giving them time to devour their prey, and in each case the bee's head had been bitten off by the bird before eating the body.

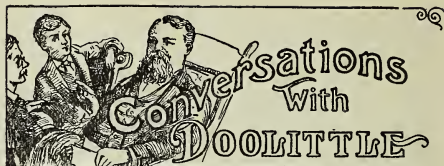
Those same sparrows are a national nuisance here; and how to destroy them is the question.

The *Bee-keepers' Review* for November is a fine issue, and has, among many other good things, an article on the sale of honey, by C. F. Smith. From it I make the following extract which is full of good ideas:

Not every person likes honey, but there are enough in every 5000 to consume from 15,000 to 20,000 pounds of ripe extracted honey each year; but you have got to take it to their doors, show them what you have, and, if necessary to remove a lot of false impressions, let them sample it. It's the only way to sell large amounts. You can't depend on mail and telephone orders for selling extracted honey from advertising. Nearly all people are prejudiced against extracted honey, from having eaten an unripe or improperly handled article. I want to impress it upon producers that, although they have sold lots of unripe honey, they can't *always* do it. I myself have bought honey by the ton of men who can't sell me any more. The best honey I ever bought had to remain in the combs until I got the cans empty from a former lot and sent back. Such honey is worth five cents a pound more for my table, or my trade, than is half-capped stuff.

A French judge reversed the decision of a local magistrate who fined a bee-keeper because his bees were said to injure the grapes of his neighbor. Here is the decision of the judge, and his reasons for reversing the decision and compelling the plaintiff to pay all the costs of the suit. I am indebted to the *British Bee Journal* for the translation, as we do not get the paper it was copied from. It is worth preserving, for the judge's reasoning was sound.

Whereas, first, it is demonstrated scientifically that—differing from wasps and hornets—the mandibles of bees are not constructed to enable them to perforate grapes; that they are not able to gather the juice except in those berries that are already perforated by birds and insects, or split by the temperature; and, whereas the bees could not have caused the appreciable damage; that, in fact, on the evidence of the plaintiff, his are early table grapes, and not those intended for fermentation; that in any case it is admitted that grapes are not melliferous—that is to say, that bees are not eager to collect from them, there is no proof that the damage done to the complainant's grapes had been, or could have been, caused by the bees, but, on the contrary, might have been done by birds and insects, etc.



WHAT TO DO DURING WINTER.

"Fine evening for a winter night."

"Yes, Mr. Johnson, it is a nice night after a pleasant winter day. In fact, our fall has been an unusually pleasant one for this portion of New York State. Have you your bees all ready for winter?"

"Yes, as I consider it my bees are all fixed for winter, they being all nicely tucked away in chaff hives, each having from 25 to 40 pounds of nice sealed stores. Having them thus fixed I thought I would call on you a little while to-night to see if you thought I could do anything along the 'bee-line' till spring."

"You have heard the old saying, 'In times of peace prepare for war,' have you not?"

"Yes; but I do not wish to make sections nor prepare many hives till I know how my bees will come out in the spring; for if they die, as they did last spring, I shall want no more hives and sections than I have on hand now."

"Well, I am not sure you are right on the point of having hives enough; but admitting that, for the time being, you can do much along the bee-line otherwise."

"How is that?"

"To the one who expects to succeed, these long winter evenings give the time in which to gain knowledge along the line of the pursuit he has chosen in life, and in no business engagement is this more imperative than where the culture of the bee is the chosen occupation."

"How can I gain such knowledge?"

"I know of no way this can be done to any better advantage than by reading the bee literature of the day. From such reading the mind is to be stored with useful knowledge which can be put into practical use as soon as the season of 1905 opens."

"Was that the way you commenced?"

"Yes. When I commenced bee-keeping I was greatly benefited by the writings of E. Gallup, L. L. Langstroth, M. Quinby, A. I. Root, Adam Grimm, and many others of those early writers on this subject. The winter evenings were not long enough, it almost seemed, so interested was I in what they had to say on this subject."

"What was the result of your putting what you read in practice?"

The first year (the poorest I have ever known) resulted in 12 pounds of comb honey and one swarm, from the two I purchased to commence with. The next year I obtained 25 lbs. of surplus from each colony I had in the spring, on an average. At the end of the fourth season I chronicled an average of

80 pounds of comb honey as the average surplus for each colony in the spring, while at the end of the eighth season my average yield per colony was 166½ pounds. During these years I had read, studied, and practiced all of my wakeful hours about bees, having great fun and enjoyment in doing the same, and this was brought about by those winter evenings when I began to read up on the subject. Many and many have been the nights when I was awake from one to three hours planning how to accomplish some result I desired to achieve in regard to the practical part of apiculture, which, with the help of what I had read, caused me to accomplish what I had sought."

"Well, that sounds good. But what shall I read?"

"During those years, and all which have passed, I have found that, if I would succeed, as far as possible I should read mainly those books and articles which come from the pens of practical bee-keepers—those whose ideas come from their daily work among their bees, rather than from theorizing while sitting at the writing-table, for the former are the ones who make a success of their calling, and tell just how they do it."

"I think that is right."

"Yes, certainly. If you wish to learn farming, to whom do you go—to the man whose farm is allowed to grow up to weeds and briars, with buildings unpainted and fences down, or to the man who produces good crops each year, has his fences up in good shape, with his buildings in attractive style and in good repair? To the latter, of course; and just so should you do in bee-keeping."

"But all do not write for the papers, do they?"

"I am well aware that many of our most practical bee-men do not write for publication, and for this reason we can bring in visiting during the winter as another help along the line of our qualification."

"But would not these practical men consider it a bore for a novice to visit them and ask questions?"

"Very likely, if we confined this visit wholly to asking questions for our benefit. When you go to visit any bee-keeper, make it a *visit* by imparting something as well as receiving something. And don't try to get too much at once, for a little well learned is much better than having so many things come before you that you do not remember any of them. Then there are bee conventions we can attend, which are mainly held during the fall and winter months, and for the special purpose of gaining knowledge. All of these things are great helps to us, and should be eagerly sought, as they will be if we have a natural qualification for the calling we have chosen."

"I think I agree, for the one bee convention I have attended I enjoyed very much. But what about your thinking I was not right about not making more hives, etc., this winter?"

"I can not help thinking you are making

a mistake here, as many have done before you."

"How is that? You would not advise making up a lot of hives till I am sure I shall need them, would you?"

"The question, it seems to me, should be, 'Am I to continue in the bee business? If so, then I must be prepared for a *full* honey-harvest from the number I have now; otherwise that *full* honey-harvest may come and find me napping.'"

"But suppose my bees should die."

"I will answer that by asking, 'Suppose they should *all* live?' When you found this out in May or June, you would order supplies. The supply man would be 'full of orders' at that time, and you might not get them till the harvest was on, and you too busy to make them. No, no; the time to do these things is in the winter, then you will be *sure* in the matter; and if your bees should happen to die, the hives will be ready when you want them; for if you are to stay in the business you will want them some time."

"I guess that is right, after all. How many do you calculate for?"

"My plan has always been to prepare hives to the number I wish to increase my colonies to, should the coming season be the *best*, and sections to the amount of 125 pounds for each colony I have in the fall."

"And do you do this as early as this?"

"Yes, I do all of this preparing during the winter months, getting every thing all in perfect order before the season opens, so that, when the time for active labor arrives, I shall not be handicapped by not being in readiness for any 'downpour' which may happen to come."

"Well, I must be going now. These thoughts are new to me, but I guess they are along the right line after all."



THERE was a large and enthusiastic convention of the Minnesota State Association at Minneapolis, Dec. 7 and 8. I will endeavor, in our next issue, to have a report of it.

SIDELIGHTS FROM THE ST. LOUIS CONVENTION, FOOD FRAUDS AND FOOD OFFICIALS.

ANOTHER paper that was listened to with marked attention was one by Prof. E. N. Eaton, Pure-food Chemist, of Chicago. It was a matter of pride with him, he said, that he had attended bee-keepers' conventions regularly for ten years; and although he never owned a bee in his life he had received a great deal of benefit from every

convention he had attended—not alone as a chemist, but he believed he had been brought nearer to nature, where man gets his best enjoyment. Every food chemist should become acquainted with the industry connected with any food on the market. Unless he did he could not correctly interpret his own analysis. If some of the food commissioners and chemists had attended some of our national meetings they never would have made the statements they have made, founded as they have been on error. He desired to speak to the convention about adulteration which did not exist; of the crimes committed by food commissioners and chemists in the name and pay of the people. He illustrated the statement by referring to incidents and facts which came under his observation. First in England the belief was so widely spread that calves' brains were used to adulterate milk that tests to detect the frauds were given in all the early text-books on chemistry. Chalk in milk and sand in sugar were other supposed adulterants, and were harped about by the editor of the comic magazines. All the old food laws contained a long list of impossible things found in candy, vinegar, and sugars; and every once in a while a newspaper breaks out about deaths produced by eating poisoned candy. Then there is a widespread falsehood about the wholesale adulteration of honey produced by bees feeding on glucose; and the still worse fraud of the alleged cheating of the bees entirely and manufacturing honey, comb and all. One commissioner after another would contribute a sensational mass of nonsense to his local press, and the canard would travel from ocean to ocean. While a food commissioner was not expected to be a food scientist, he would very often put his foot into it.

In answer to a question as to the cause of these mistakes, he thought first it was a desire for publicity; second, to alarm the public to such an extent that it would demand more of those fool food commissioners.

GROCERS RESPONSIBLE FOR THE COMB-HONEY LIES.

At one of the discussions the fact was brought out clearly that many of the grocers, for the sake of publicity, and to shock their hearers, would tell the old, old story about manufactured comb honey, even going so far as to show samples of dark-looking combs that were manufactured, which they would sell cheap, while the better-looking article was genuine bees' honey from clover and basswood. Some would reverse the order, and say that the beautiful white combs were manufactured, while the dark ones, soiled and dirty, were the genuine product of the bees. It was generally thought that bee-keepers should be looking after the local grocers, and give them a dose of facts.

THE NATIONAL BEE-KEEPERS' ASSOCIATION NOT INCORPORATED.

During one of the sessions when there was talk about the Association beginning a dam-

agesuit against some of the papers and magazines that will not retract when they have published the usual comb-honey lie, the point was made that no such action could be begun by the Association, owing to the simple fact that it was not incorporated. Mr. France, the General Manager, referring to this, stated that, when he wrote to one of the publications, intimating that an action might be begun, received from the offender a letter, asking him if the Association he represented was incorporated. He was obliged to confess it was not; and the result was that no retraction was made, for the purveyor of the lie knew perfectly well that the National could not be recognized by the courts. The matter was referred to a committee, and probably it will come before the Board of Directors.

RECOMMENDATIONS OF THE GENERAL MANAGER.

One of the busiest men at the National convention was General Manager France. He looked worn and tired, and certainly he was. He had been working almost night and day, attending bee institutes, performing the duties of a foul-brood inspector of his State, and looking after the interests of the National. The duties of the Association were getting to be so arduous that he hardly had time to be at home with his family. His father, now past 80, was not able to superintend the work at home, and the two little boys, present at the convention, had the whole care of the house, between 400 and 500 colonies of bees, and 20 acres of fruit land inside of the city, on which he pays \$60 taxes. The result of all this was that he had had no time in which to prepare a formal report, and he therefore begged the indulgence of the convention in giving the report offhand.

He felt that the Association was now on a living basis; that, while it had only just begun, there was a grand future before it. The insurance part of the Association, as he put it, gave him a great deal of anxiety and careful study. Hours when he should have been at rest he spent with attorneys who have been kind enough to give him their advice gratuitously because he really felt there were no funds which he could use for this purpose without a vote of the Directors.

There had been a good deal of trouble between bee-keepers and their neighbors, not because of the bees, but through their different affairs; and finally the bees were brought in connection with it, with the result that their owners got into a quarrel, then step off and say, "I belong to the National Bee-keepers' Association, have got into trouble—you help me out." He was sorry that such conditions had come about, for he hoped that the day had dawned when we would, to use his own words, "discontinue that, and allow the Association to develop in these new phases of fighting adulterated honey, and creating a greater uniformity of market among bee-keepers over all the world. There are things of world-wide interest we ought to be

doing instead of these smaller and more unimportant things." As Mr. France said these words I applauded; and some seemed to wonder why I alone should applaud. Because I must confess I was sorry to see that the Board of Directors had seemed to favor the idea that the "suppression of adulteration"

"is the secondary object of the Association" . . . "that it must not be expected to neglect or jeopardize the prime object of the Association to protect and defend its members in their lawful rights." I believe the time has come when the Association should devote itself to larger things more than it has ever done before for the suppression of adulteration, and fostering all worthy attempts to secure pure-food laws in the various States; and, when once secured, to bring about their enforcement. I don't see any thing in the constitution that implies the defense feature as of more importance than that of the suppression of adulteration.

One case Mr. France gave to illustrate his point to show that some of these troubles between neighbors might be avoided. I can do no better than to quote his own words, for I think they are golden:

For those of us who live near neighbors, and our bees, in the spring, perchance, should spot the neighbors' clothing, how nicely a little donation of honey, friendly given, or paying for the relaudrifying of the clothing, would settle all that grievance! If our bees go to our neighbors' trough or place where the water is obtained, and they are an annoyance there, sweeten that away with a little kindly donation of honey. If our bees annoy our neighbors in a garden or upon the near highways, you know they can be sweetened in the same way. Oh! I have gone to various places, and have compromised it without any litigation by just bringing the two parties together and having a little honey and new biscuits. Keep together; compromise; keep out of court; be brothers hereafter.

Every member, as he sends in his dollar and his vote, ought to read over the above words. Why should a part of that dollar be wasted—worse than wasted—when a compromise can be easily effected? Mr. France showed how he had in numerous cases gone to the contending parties and fixed up matters himself without any litigation. Then he added, "These people might just as well have done this themselves, and saved me the time and expense in the first place."

The General Manager said he was willing to do almost any thing in his power; but he thought bee-keepers might render him very efficient aid in one way and another. The Association issued a little pamphlet on bees and horticulture for the benefit of those receiving injury by people spraying fruit-trees while in bloom. This had become alarming in some parts of the country, and many apiarists suffered severely. In several instances the little pamphlet had produced the desired effect.

There was another pamphlet, he said, that has been issued by the Association, and that one was in reference to decisions of the courts and laws relating to bees in the different States. These were all codified so as to be convenient for ready reference.

In closing, Mr. France desired to express his appreciation of the noble way the bee-keepers had stood by him and the organiza-

tion. He felt it was now on a basis of permanency. There was not very much money in the treasury—\$1115. At the close of his remarks the General Manager was most heartily applauded, and was extended a vote of thanks besides. This was carried by a rising vote, and there was not a member present but felt that he had in Mr. France a most faithful and efficient officer.

SIDELIGHTS FROM THE CHICAGO-NORTHWESTERN CONVENTION.

NEXT to the National Bee-keepers' Association meeting, this probably, in general attendance and enthusiasm, would rank first. Chicago is the center of a large number of local bee-keepers, for sweet clover has made the business possible in and about the city to such an extent that there are hundreds of bee-keepers within but few miles of the great city. It is accessible over all roads, and this makes it a good convention place.

Bee-keepers this year assembled at the Revere House in what is known as the "lodge-room." Mr. York is the president; and the old feature of having a question-box and nothing else seemed to hold its own. Dr. Miller has often said that a question-box convention was more profitable than one devoted to the reading of long papers. A good deal, of course, will depend on the president and the bee-keeper. But certainly the question-box feature was a success at the Northwestern.

One question discussed was this: "Where shall the thermometer be placed in the cellar?" Dr. Miller, in reply, said that it should be located centrally, and always kept there. To put it in one place at one time and then move it to another would make it impossible to know of the absolute rise or fall of the temperature.

Another question was, "What are the advantages of the shook swarm?" Mr. Hutchinson thought there was no advantage except that it put the swarming at a time when the bee-keeper could take care of it. He urged that the colonies be shaken only when the bees were making preparations to swarm.

Another question was, "Shall we use the term *shook* or *shaken* swarms?" Dr. Miller urged the dropping entirely of the term *shook*; but some of the other members seemed to favor the monosyllable as being more expressive. Mr. Abbott mentioned the fact that we are continually coining new words to describe new devices and new methods; and as the word *shook* had come to be quite generally understood and accepted by bee-keepers, why not use it, even if it were not technically grammatical?

"Is bee-keeping suitable for women?" called forth a number of affirmative responses from the ladies present. President York asked Miss Wilson, who had the floor, "Is it convenient to have a man around to do some of the heavy work?" Instantly came the rejoinder, "Yes, if you can get one." Laughter.

"Do bees freeze to death?" was a question that elicited quite a heated discussion.

Mr. Abbott insisted that bees did not *freeze* to death if they had plenty of stores—that they *starved* to death. Several took issue. Instances were cited showing how bees seemed to be stiff and cold, and yet when warmed up in a living-room they would be as lively as ever. Many seemed to think that the cold weather caused the bees to consume too much to keep warm, surcharging their intestines, and this in turn resulted in dysentery in the spring.

The matter of foul brood received a large share of attention. The foul-brood law of Illinois was not effective, because it did not provide a penalty. An inspector might visit an apiary; and if the owner of the bees was disposed to carry out the instructions, well and good. If not, nothing could be done. There seemed to be a general feeling that the law should be amended so as to give the inspector power to carry out his orders. With the idea of influencing legislation, the Chicago-Northwestern joined the Illinois State Bee-keepers' Association in a body, thus greatly swelling the membership. The two organizations, under the leadership of the State Association, will doubtless make a strong pull for a more effective law than is now on the statute-books. General Manager France was present, and gave an excellent address on how to recognize foul brood in its very early and later stages. Mr. France being one of the lecturers sent out by his own State to talk at farmers' institutes is a trained platform speaker. He has a way of making all his arguments clear and forcible. He is certainly a master of the foul-brood subject.

Prof. E. N. Eaton gave an address on the general subject of honey, taking up somewhat the same line he did at the St. Louis convention. Near the close of his address he mentioned the fact that the Department of Agriculture, through the Bureau of Chemistry, was asking for suggestions as to the correct definition of honey. The definition he gave was something like this: "The nectar of flowers or exudations of plants gathered by the bees and stored in combs." He went on to show that the bees inverted or changed the nectar, making it into honey. He would limit the definition to "nectar of flowers transformed, and stored in the combs by honey-bees." This raised considerable discussion. Some said that their bees gathered honey-dew some seasons more than others. If the presence of honey-dew in honey were to be classed as an adulterant, then a good deal of their honey would be classed as impure. Mr. N. E. France very plainly stated that, if this definition were accepted, then he would have to go out of the business; for last season a good part of his crop had honey-dew in it, but not enough to hurt its flavor; indeed, some of his customers liked it. "Now, then," said he, "if honey is limited to the nectar of flowers only, my honey is adulterated; and if analyzed I should have to be fined and imprisoned for selling adulterated goods." Considerable feeling was aroused, and many of the bee-

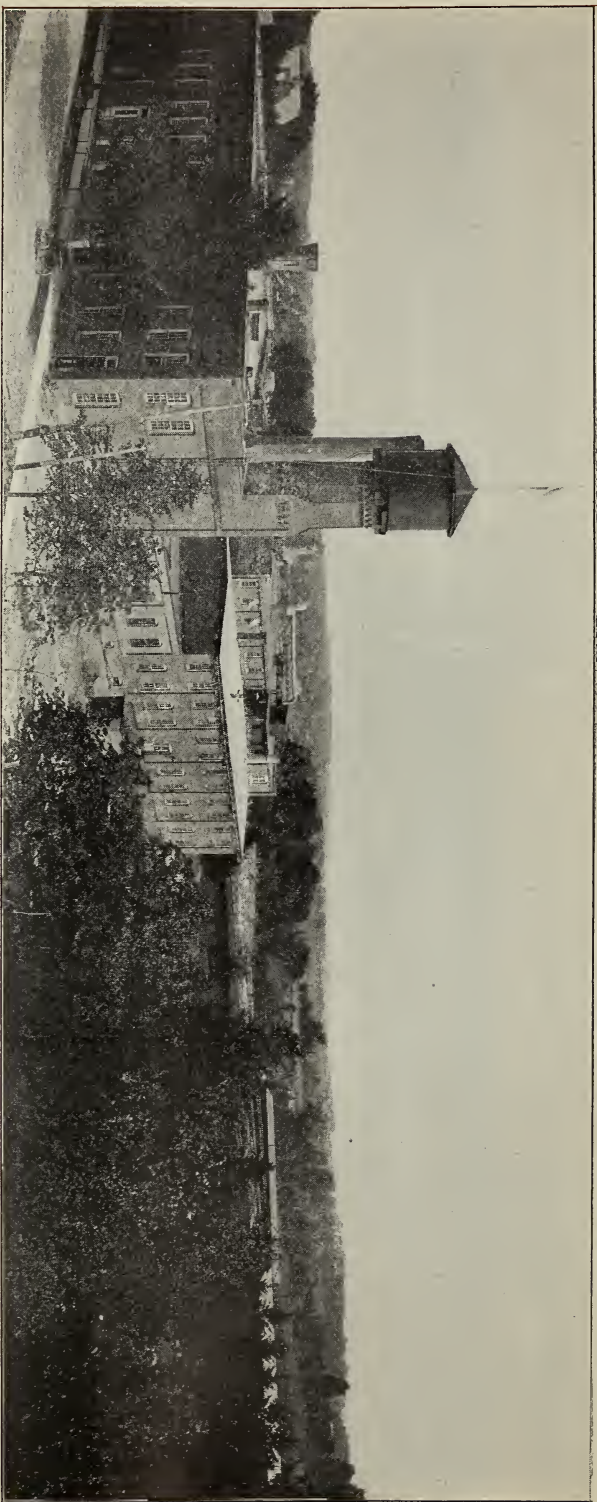
keepers expressed the hope that the definition might be made broad enough to include the exudation of plants, honey-dew, and nectar of flowers.

On the evening of the 30th some new stereopticon slides were thrown on the screen, illustrating bee-keeping in its various phases, and besides this a moving picture of a swarm of bees was thrown on the screen. The pictures represented the opening and closing of hives, picking up handfuls of bees, hunting for the queen, dumping swarms, and shook swarming. Some bees were caught, and confined between two pieces of glass, and thrown on the screen. During the process of catching, several of these lost their stings. The way the bees pulled at the stings, stuck out their tongues, etc., proved to be quite interesting to the veterans as well as to the beginners present.

THE IMMENSITY OF THE BEE-KEEPING INDUSTRY AS A WHOLE.

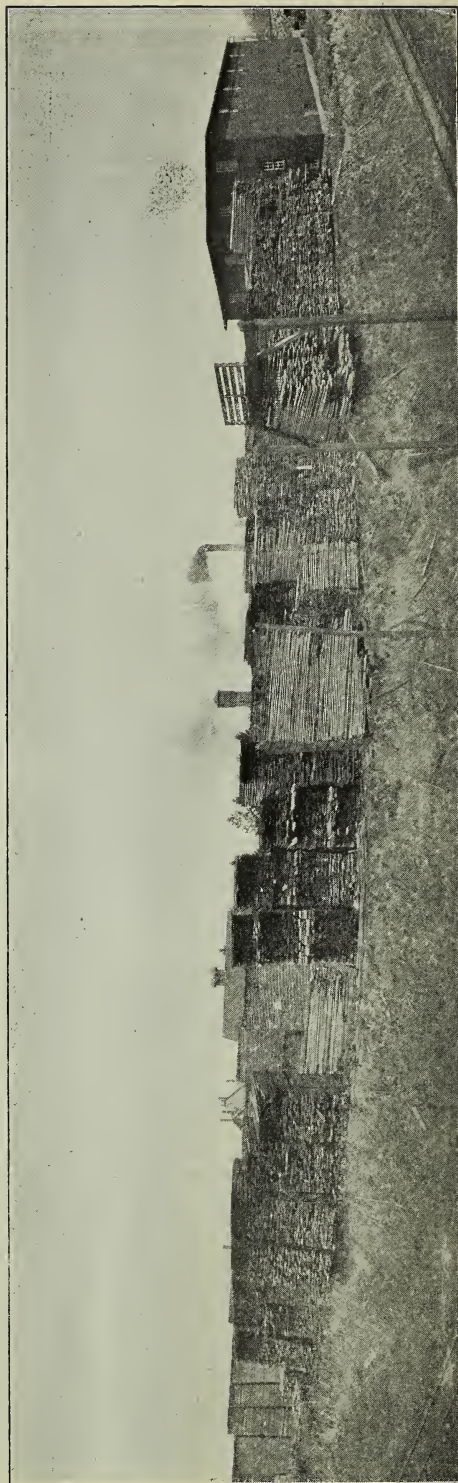
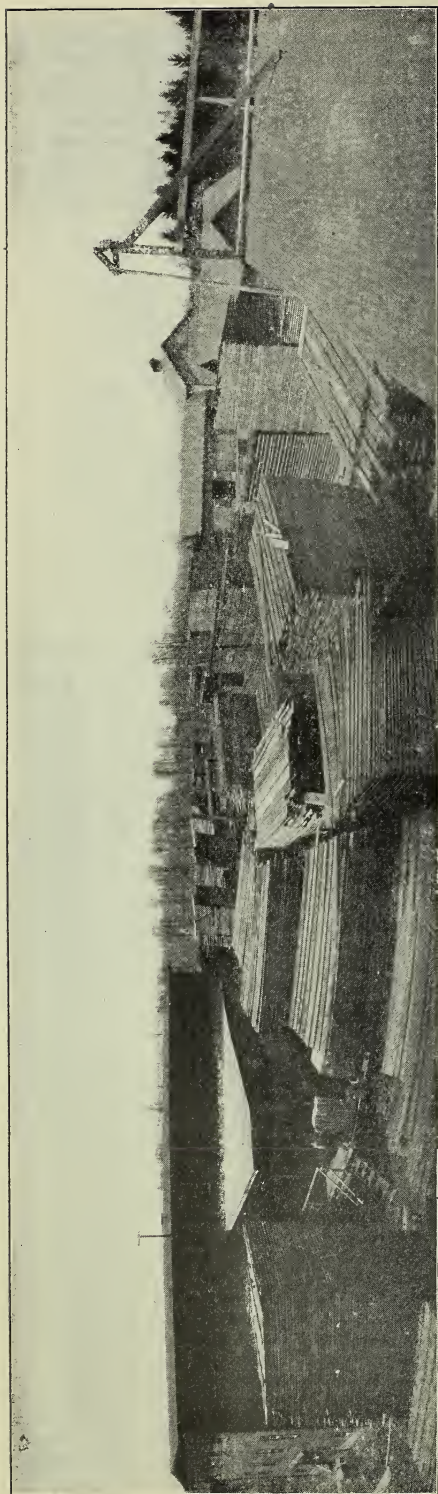
ELSEWHERE in this issue we produce some photographic views of The A. I. Root Company's plant, taken during the last four or five months, some before recent enlargements. It is, perhaps, well that the beekeepers of the country should know something of the immensity of the bee-keeping industry, including not only the production of honey itself, but the manufacture of supplies for the same. Some time ago I made an estimate, based on the exact knowledge* of the number of sections that are made annually, that the amount of honey produced, both comb and extracted, would make a total aggregate of from 100 to 125 millions of pounds, worth from 8 to 10 millions of dollars. Very recently one of the editors of one of our bee-papers figured out from some government statistics that had then just been issued that 6667 carloads of honey were annually produced in the United States. It is a little significant that my own figures, arrived at from an entirely different source, and in a different manner, should show that, on a conservative estimate, there were 7000 carloads produced, or almost the same as represented by the government statistics. But it is reasonably certain that the above estimates are, at the present time, away below the actual mark, and that we should be safe in figuring on a total output of 10,000 carloads. If we estimate 40 feet between the bumpers of the cars this would make one continuous train 75½ miles long; but for fear the average public would not believe these figures we have put the estimate at the very conservative figure of 50 miles. The mere fact that apiculture is making rapid strides in foreign countries—even more rapid than it is in the United States—goes to show that the little bee, in spite of its insignificant size, is, like the little Jap, making its influence felt in the world. It thrives in every climate except where there are arctic snows to cut off all sources of nectar.

* This was secured through Dr. Miller, who, several years ago, wrote and secured the total output of sections from all the factories in the United States.

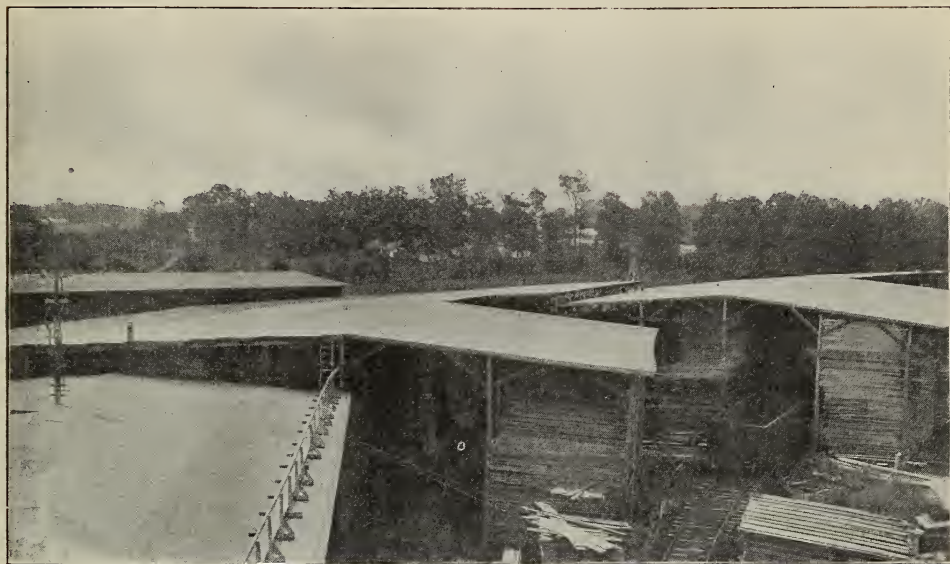


THE A. I. ROOT CO.'S BEE-HIVE-MANUFACTURING PLANT, VIEW LOOKING FROM THE NORTHWEST.

This illustration, with the others in this issue, are produced to give the reader an idea of the magnitude of the bee-keeping industry of the United States. So much honey is, in fact, produced every year—enough at a conservative estimate to make a solid trainload 50 miles long—that the average person unfamiliar with the possibilities wrapped up in so small an animal as the bee naturally supposes that much of the product masquerading under the name of honey must necessarily be glucose or other cheap syrup. Nearly a year ago we gave a set of pictures showing views of the G. B. Lewis Company's hive-manufacturing plant. These, together with the illustrations given here, will speak eloquently of the growth of the bee-keeping industry in the United States. These two with the other manufacturing plants over the country represent anywhere from one-half to three-quarters of a million dollars of investment. In the case of the present illustrations the views represent a working capital of \$300,000 where nothing but bee-keeping specialties is manufactured. If there were not millions and millions of dollars taken from the bees annually, such plants could have no reasonable show of continued existence.



VIEWS OF A PART OF THE A. I. ROOT CO.'S LUMBER-YARDS.



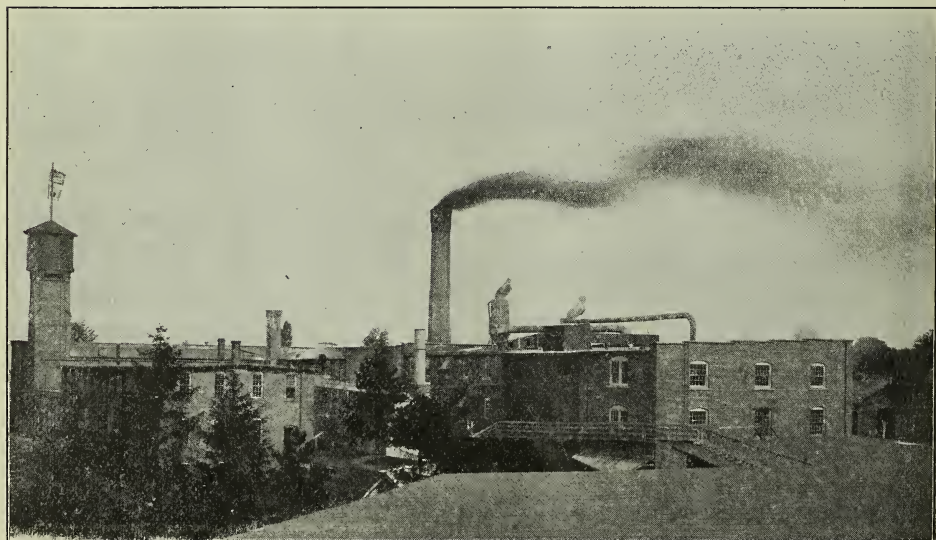
THE A. I. ROOT CO.'S LUMBER-SHEDS WHERE AN AGGREGATE OF \$50,000 WORTH OF LUMBER IS STORED AT ONE TIME.



PART OF THE A. I. ROOT CO.'S LUMBER-YARDS.



BASSWOOD LUMBER AS IT COMES IN FROM THE FARMERS.



A PARTIAL VIEW OF THE A. I. ROOT CO.'S MANUFACTURING PLANT, VIEW LOOKING FROM THE SOUTH.



DOES CLOVER WINTER-KILL?

How to Know When we shall Have a Crop of Clover Honey; a Valuable Article.

BY VIRGIL WEAVER.

Mr. Root:—I wish to write a few lines on a variety of subjects. The first is white clover. This is the main honey-plant east of the Rockies. Strange to say, there is very little known about it. I do not mean by the small bee-keeper, but by the "big uns" as well as the little fellow of half a dozen years' experience.

In a recent issue, you, Mr. Editor, were commenting on the prospects of a honey-flow in Wisconsin, and said that they were not very promising—in the southern part of the State white clover had winter-killed. That is something white clover does not do. I will tell you why. Any year preceded by a normal amount of rain will give a flow of white-clover honey. It matters not how hard or how long it freezes, how often it thaws or how much snow falls to protect the clover. When May comes with her showers and sunshine, the clover will come smiling to greet the anxious bee-keeper.

I formerly lived in Kentucky, and was afraid to cross swords with you Northern fellows, for I knew our winters were not as severe as yours, so I kept still; but now that I am in a zero State, and I find the same results here as in Kentucky, I am going to "butt in." I will take the past winter for an example, which was one of the coldest on record in Iowa—zero for weeks at a time, and not a bit of snow to protect it. What is the result? An 80-lb. honey-flow, all from white clover.

Now, there are two sides to this "hoe-cake." I will take Kentucky for an example. We shall find a different result. The thermometer never reached zero there the past winter, but the white clover winter-killed there, so some of the bee-keepers say, and they have had no honey-flow there this season. You also said it was too wet during June for honey south of the Ohio River. Now, I can tell you why the clover winter-killed in Kentucky also. Why? It was too wet in June. Neither the wet June nor winter-killing had any thing to do with the failure. What then? Right here lies the secret. The rainfall, as observed by the Lexington, Ky., station from May 1 to Nov. 1, 1903, was nearly 11 inches short. No new clover started at all; no new roots on the old 1902 crop to prevent its dying out in the

winter of its own accord, freeze or no freeze. That's what it will do every time.

There is one exception in regard to the old clover, and that is this: If the rainfall in August, September, and October is excessive, this old clover will start new roots that can withstand any winter. But without these rains the old clover that has matured its crop of seed will die out. Then if there are no new plants that were started in the early spring, the white-clover flow is a failure, not because of winter-killing, but because of drouth.

You will observe a little contradiction in some of the above; that is, that clover winter-kills, and that it does not winter-kill. I will explain, and also tell the bee-keeping public when to expect a white-clover honey-flow. In the first place, a white-clover seed is very hard to germinate. Conditions must be very favorable for the little fellows to begin their battle with life. If in the spring, it must be very warm with plenty of moisture. There must be no crust on top of the ground. The thermometer must touch the 70's—from 80 to 90 is all the better. With these favorable conditions for a week or ten days you will find very small white clover-plants in every little vacant spot in the pastures. If the rains continue until July 1 you can rest assured that the next year will give some white-clover honey; for by the time these plants are two or three months old they are able to withstand any kind of weather. If the rains continue through the fall months, all the better. The most of us know that these young plants bloom but very little the first year—not enough to make a honey-flow. There is an exception: If conditions are favorable for plant-growth until July, and July is hot and dry, setting these young plants back, or producing a dormant state for a few weeks, then good rains come in August, making a strong plant-growth again, these young plants will bloom in September to a very great extent, making the pastures almost white; but without this July drouth to produce a dormant state, there will be very few blossoms.

This brings me down to where I differ with you, Mr. Editor. I say it matters not how cold it gets nor how often it freezes and thaws through the winter. These young plants will be there the next June. Do not jump in here, you big fellows, and saw me up, because you can not do it.

I will now tell you why the impression prevails that white clover winter-kills. We will now take these plants through the second year. If conditions are favorable in the spring for plant-growth, there will be a profusion of blossoms in June, and a good honey-flow. If the rains continue after the honey-flow, these same plants, as I said before, will take new roots that will withstand any winter. If you have no fall rains to speak of, these old plants will die in the winter, cold or no cold. All dry falls are not followed by honey failures, though, because it may be favorable for plant-growth in the spring and early summer, and make a fine

growth of young plants. These young plants can withstand a dry fall and a hard winter also, and make a good honey-flow the next June, as was the case in my locality in 1897. The fore part of 1897 was favorable. From July 22 until November 1 there was not $\frac{1}{4}$ inch of rainfall. In 1898 I averaged over 100 lbs. per colony of white-clover honey; so you see that, to have a honey-flow this year, we must have had a favorable time to start a lot of young plants the year before.

The winter has nothing to do with the amount of white-clover blossoms we have. It all depends upon the amount of rainfall that we have in summer.

Now I want a few words on what causes large and small honey-flows, and when we must expect a bumper crop or a moderate one. I will take four seasons in Iowa to illustrate. The year 1901 was about the driest on record here. The result was, that in the spring of 1902 the pastures were bare in a great many places. Spots a yard square would not have a sprig of grass on them, with plenty of rain in the spring of 1902, also good warm weather. The white clover filled all of these vacant places. The rains continued all season—in fact, were excessive. The result was that, in 1903, there being no old plants in the way, these young plants outdid themselves. It took plenty of rain, though. Now for a moderate honey-flow, or an average one.

You will find that the bumper crop will be secured the second season after a severe drouth. Then as old plants (that is, plants two years old) will not bloom as profusely as a plant one year old, the third season you may expect only a moderate honey-flow, and the flows will be moderate until the drouth cleans out all the old plants, and you begin over.

Washington, Ia., Aug. 29.

[You have evidently given this subject careful study. If your rule or rules will work out in all parts of the country it will mean much to bee-keepers who, if they could know definitely whether they are going to have a crop or not, will be able to make their plans accordingly. The result will be that they will be able to save in some cases and earn in others hundreds of dollars.

I should be glad to hear from a large number of our subscribers from many portions of the country as to how well these rules have worked out for the last five or ten years. Possibly by comparing notes we may learn something. I do not know of any more important question for discussion during the winter months than this.

According to your rule we have thus far for this locality had all the necessary conditions for a white-clover honey-flow next season; and now you ask, "How has this rule worked with you in the past?" We have kept here no records; but as nearly as I can remember the rule has held out in practice in this part of this country.—Ed.]

WHEN CLOVER YIELDS HONEY.

Bee-stings for Rheumatism; how to find Queens Quickly.

BY S. F. TREGO.

An abundance of white clover in the fall is not always a sure sign of an abundance of honey the next June—page 924. There was white clover everywhere around here last fall, and yet very little honey. The ground is again covered with a heavy growth, and we hope for better things in 1905.

I think the sting or poison of wasps, hornets, bumble-bees, and yellow-jackets differs from that of our honey-bees. They pain me much more than honey-bees. Even the little yellow-jacket, scarcely larger than a fly, inflicts much more pain than a bee.

Isn't it more than likely that the colony that refused to build cells when queenless, page 938, was not queenless at all? I believe more often than many think there are two queens in a hive, and of course the removal of one does not render the colony queenless.

I believe bee-stings are a benefit, at least, to those who are troubled with rheumatism. From childhood I have been troubled with rheumatism in my left arm; but when I began to handle bees, at the age of 18, the trouble was greatly relieved, especially during warm weather when I was among the bees. Later I was out of bees for two years, and the pain was very severe at times, often keeping me awake nights; but as soon as I began to handle bees again, and get a liberal dose of stings daily, the pain disappeared, and very seldom troubles me except in winter.

Recently I have had some experience in unqueening black and hybrid bees in a wholesale way. I took a job of requeening 56 colonies for a neighbor; and as he seldom handles his combs I had quite a problem to solve. The bees were mostly in Dovetailed hives with Hoffman frames, and gloriously glued; besides this, some of the combs were crooked. Here is how I managed it: I spread a sheet in front of the hive, and on it, about 3 ft. in front of the hive, I placed an empty super. I would set the hive on the super crosswise, leaving the bottom-board on the stand, glance over the bees on the bottom-board to see if the queen was there, then remove the cover, smoke well on top of the frames to drive the bees down, and then pick the hive up and give it about ten smart jars, drum out the super, replace the hive on the stand, remove the super out of the way, and with the smoker start the bees running into the hive, and pick the queen up as she traveled across the white sheet in plain sight.

In finding a queen in my own apiary I work differently, as the combs are easily removed. I decide by a sort of instinct or knowledge, gained from long experience, where the brood-nest is (I refer to late fall work, when there is usually brood in only one or two combs). I carefully lift out the

most likely comb, glance over it for eggs, and if none are in sight I lean it against the hive and take the next. As soon as I see eggs I look for the queen, and generally get her by the time I have removed three combs. If she is not on the combs where the eggs are I waste no time in looking over the combs, but remove part of the combs and look on the side and bottom of the hive, where she will often be found, especially if she has any black blood in her.

Swedona, Ill., Oct. 10.

[Perhaps the preceding articles will explain about the clover crops. The evidence is piling up showing the efficacy of the bee in fertilization.—ED.]

HOFFMAN FRAMES.

The Use of Two Followers in a Hive as an Extracting-frame.

BY C. E. WOODWARD.

J. A. Green, the veteran writer of the Rockies, arrays himself in a very strong and positive manner against the use of two followers in a hive. Has he ever used two followers in a hive with the Hoffman frame? It is well to take ample time, and even to experiment to some extent ourselves, before definitely condemning any system. When I was writing on this subject of two followers I was doing so from a comb-honey stand-

point. Even in Cuba it would be better to have two followers in comb-honey supers. The merits of the product of the two systems will ultimately decide who are the victors—who is right or who is wrong. Of course, I am speaking of close-fitting followers; and if Mr. Green will try a hive that is factory-made he will see at once that the space is just right. He admits that the Hoffman frame, when handled by intelligent and careful operators, will give entirely satisfactory results. This can be said of all frames in use at the present day. But I do say, all things combined, that the Hoffman frame is the best. Now, I'm not keeping bees on paper or in my mind. I'm speaking from experience. Mr. Green speaks of having to pull the top-bar off nearly every frame in the hive before he could get one out; and the bottoms came off, and the ends pulled out. When a man has such trouble as that, then I advise the use of break-joint honey-boards. In fact, no apiary is complete without them. I have used the Hoffman frame, and Dove-tail hive ever since its introduction, and with two followers for comb honey, and find it next to the chaff hive, and have no complaint to make. I also use the break-joint honey-board. I was the first one to introduce them in Cuba. I also believe, as a rule, the merits of the honey-board have, in a great measure, been overlooked by our honey-producers.

Matanzas, Cuba, Nov. 21.

[Mr. Woodward has just ordered two



APIARY OF C. E. WOODWARD, MATANZAS, CUBA.

thousand two story extracting hives equipped with Hoffman frames, and has already three thousand in use, which will make, all told, 5000 two-story hives, or 90,000 frames. His experience is, therefore, somewhat extensive. Some have thought that the Hoffman frame was not adapted for extracting. As we have a good many more customers who use it for this purpose, and extensively, too, it would seem to be only a question of learning how to use it. —ED.]

SPACING FRAMES.

Staple-spaced vs. Loose or Nail-spaced Frames.

BY MORLEY PETTIT.

I see Dr. C. C. Miller is itching for a scrap about frames with some other member of the Pettit family (p. 936). Well, my time is "scarce," but it will not take long to tell why I like the Pettit style of frames better than any others I have seen. The frame has a $\frac{3}{4}$ -inch-wide by $\frac{5}{8}$ -inch-thick top-bar and a $\frac{3}{4}$ -inch bottom-bar. The end-bars are $\frac{3}{4}$ inch wide part of the way down, then taper to $\frac{3}{8}$ inch. I like this shape because a wedge-shaped comb pulls out of and shoves into the cluster of bees so much easier. I consider Dr. Miller's only objection, that "bees sometimes build past them or between them," very weak compared with this great advantage. The objections I see to the wide bottom-bar are very strong, viz.:

1. They rake and scrape bees as they pass in and out of the hive, unless handled very slowly.
2. They catch dead bees in winter.
3. If two frames are slightly out of square they meet and are glued together at the bottom.
4. If a double brood-chamber is desired, the queen does not so readily go up between wide bottom-bars.

Now about those nails and staples. I fully remember the conversation to which Dr. Miller refers. It was at the Chicago convention two years ago, and I had been wanting to meet the doctor and ask him how he could prefer nails to staples. I certainly admitted that staples cut slightly into the wood of the adjoining frame; but at that time I had not tested the nail spacer enough to be strong in my objection to it. However, that winter I spaced a few sets of frames with nails instead of staples. Those frames have been an aggravation in the yards wherever they turn up, ever since. Your words, Mr. Editor, express it exactly. The staple "permits of the frame sliding into position better than a nailhead, which has a tendency" (rather is *sure*) "to hook or catch on the next frame." Having used staple spacers four or five years I do not find their cutting into the next frame does any particular harm as yet. When it does I can tack a piece of tin on the top-bar as flat surface for the staple to butt against, rather than have the flat head on the spacer.

Finally, Mr. Editor, you say that extracted-honey men want, generally, no spacer at all, on account of uncapping. I myself am an extracted-honey man on a fair scale, and would say to the more extensive men that they don't know what they are missing. Let me give a record day which will probably compare favorably with what others do.

Between 10 A.M. and 6 P.M. my helper and myself, without other assistance, took off, carried down cellar, extracted, strained, and put in barrels, 2000 lbs. of honey. The honey was three-fourths capped. The extractor was a four-frame non-reversible. The honey had to be carried in pails to the strainer, which emptied into the barrel, and, worst of all (?), every frame had staple spacers. Once you know where the staples are to be found on the frame, the danger of running the knife on them is not worth considering compared with the gain in time of having to take no thought for the spacing in the super. I neglected to say that the supers were all returned to the hives as we went along, and dinner took at least half an hour of the time.

Now, if I seem to have attacked any one, let him do his worst. No one sees more clearly than I the fact that every one has a right to his own way of doing these things; and if you don't want staples and narrow bottom-bars, you seem to me to be the loser thereby.

Belmont, Ont., Canada.

[There, that is right—give it to the doctor. I never could see how he could like those nail spacers in preference to the smooth staples that permit the frames to slide past each other without any hitching or catching. I wonder if the doctor is the only one who uses nail spacers to any extent. —ED.]

BEEES ON SHARES.

A New Form of Agreement.

BY CONTRIBUTOR.

I have noticed lately several cases of dissatisfaction arising from having no written agreement. I have drawn up several documents on lines similar to the one here given. I have thought that this might be of some benefit to those who do not know how to go about drawing up an agreement. The one I send you is very much abbreviated, but it will give one an idea, and he can put in other clauses to meet his particular case or needs.

AGREEMENT TO KEEP BEES ON SHARES.

The parties to this agreement are John Smith, merchant, of Sunnyside (hereinafter referred to as the proprietor), and William Brown, bee-keeper, of Greendale (hereinafter referred to as the operator).

CLAUSE 1.—Duration of agreement.

The terms of this agreement come into force on Sept. 1, 1904, and end on Sept. 1, 1909.

2. Hives, appliances, and supplies.

The proprietor shall find all hives and appliances necessary to carry on the business, and all supplies that may be needed shall be obtained promptly by him when required.

3. Location of apiary.

The hives of bees will not necessarily be located on the proprietor's own land. They may be kept at any other place, or in several places, by mutual consent.

4. Labor.

All labor to be supplied by the operator. He will devote the whole of his time to the business, should it be necessary, and will also hire labor, should his own time be insufficient. He will see to it that at no time shall any necessary work among the hives be neglected.

5. Management.

The system of management shall be left entirely to the operator's own discretion. It is understood, however, that he shall devote his attention to the production of honey rather than increase. He shall make such increase as is consistent with good management; but the production of honey, not bees, shall be the chief consideration.

6. Increase.

The operator shall be entitled to receive increase at the rate of one swarm to each two parent colonies worked that season, spring count; all other increase, above that amount, to belong to the proprietor. In no case shall the operator receive more than one-half of the increase, should there be less than an average of one swarm per parent hive, spring count.

7. Profits.

At the close of each season a division shall be made, and each party shall receive one-half of all honey and wax that has been obtained. The operator shall hand over the proprietor's share in a marketable condition, and remove his own. The cost of honey-cans, section boxes, super foundation for sections, and crates for marketing, shall be equally divided, but the proprietor shall find brood foundation and all permanent stock in trade.

8. Exhibition.

The operator shall have the right to select the choicest of the products, and exhibit them at local fairs in his own name. The proprietor shall not exhibit against him during the currency of this agreement.

9. Access to property.

The operator shall at all times have free access to any part of the proprietor's land for the purpose of attending to his duties; but should he cause injury to standing crops, or do any other damage, he shall be liable for the same.

Dated at Sunnyside, this first day of September, in the year one thousand nine hundred and four.

Signed by the above-named John Smith as proprietor, in the presence of ———.

(Signature.)

Signed by the above-mentioned William Brown, as operator, in the presence of ———.

(Signature.)

(Stamp.)

Fernhill, Hawkes Bay, New Zealand.

[Your form of agreement is all right, except that you leave out all reference as to who is to furnish the hives—for the increase that goes to the operator. In the absence of any specific statement it is presumed that this expense is borne by the owner of such increase.]

It is the usual practice in this country, where bees are kept on shares, for all increase to go to the proprietor. The idea is to discourage increase, and thus secure the largest amount of honey possible. As a general rule this arrangement gives better results than where increase is divided or on the basis of one in three as provided in your form of contract. With this exception, your agreement is practically the same as our model contract in the A B C book, under the head of "Bees on Shares."—Ed.]

A BUNCH OF QUESTIONS.

Size of Entrances; Warm Supers, etc.

BY C. H. HOWARD.

1. What is the largest opening required for a colony of bees? Is $\frac{1}{2}$ of an inch by the width of the hive too much?

2. In a Danzenbaker hive, if some of the bees are shut on the outside of the frames by the long wedges, will they find their way out at the ends of the wedges, or will they remain on the frames and die?

3. Some bee-keepers say, "Don't cover the sections too closely." Mr. Danzenbaker, in his book, "Facts about Bees," page 45, tells us to cover up the supers very closely. Which is the better way?

4. If the ends of the top-bar of the Hoffman frame are cut off so there will be $\frac{1}{4}$ inch space between the ends and the hive, will the bees fill the space up with propolis?

5. I have seen it stated that, with deep bottom-boards, and supers with plain sections, the bees will deposit their honey in the outside rows of sections. Will you explain why they do so?

6. How much honey should be fed daily in the spring to stimulate breeding? Would not 2 oz. per day be sufficient? I have seen the use of much larger quantities advocated. If 8 ounces or a pound a day were fed, would not the larger portion of it be stored, and room occupied that should be for the accommodation of the queen?

Dorchester, Mass.

[1. The largest opening required for a colony of bees will depend upon circumstances. Two inches deep by the width of the entrance may not be too wide in the hottest season. Usually about one inch by the width of the entrance will be sufficient. In winter time, if wintered outdoors it should not be more than $\frac{3}{8}$ inch deep, nor more than 8 inches wide. If the colony is not strong, $\frac{1}{4} \times 4$ inches might be enough. In the case of nuclei, smaller entrances still should be used; but where entrances are very much contracted they should be watched so that

they do not clog up with dead bees. In the cellar, entrances can not be too wide. They should be as large as the hive will permit. Some go so far as to remove the bottom-boards entirely, and leave the whole bottom of the hive open.

2. Wedges are made just short enough so that there will be a good big bee-space at one end for any bees that may be imprisoned to escape into the body of the hive.

3. It is our practice and that of Mr. Danzenbaker to keep the supers as warm as possible. They can not be protected too much. A super that permits warm air in the top to escape unless in extremely hot weather will not give good results in comb-honey production.

4. Bees will not fill up the space between the ends of Hoffman top-bars if $\frac{1}{4}$ inch be allowed, unless the locality is one that furnishes large quantities of propolis. As a rule this $\frac{1}{4}$ -inch space is left intact.

5. This statement is not strictly correct, although one quite similar to it has been made. The bottom-board should slant from center to side, so there would be a deep space under the center of the frames and a shallow one under the outside frames. This is to make it easy, so it is said, for the bees laden with honey to go to the outside combs first; but practice does not seem to confirm the theory. When there is a fence used on each outside row there is usually better filling of the outside rows than when there is no such fence.

6. You can not measure the amount of feed a colony requires in ounces, as so much depends upon general weather conditions and the strength of the colony. Two ounces may be enough in some cases, while $\frac{1}{2}$ -lb. may not be too much in others. For stimulating feeding, no more should be given than just enough to keep bees rearing brood nicely. If more be given they will be liable to store it in the super if there is one, or crowd the queen by filling up the outside combs, and even the center ones if feeding be continued. — Ed.]



SIZE OF WINTER ENTRANCES OUTDOORS FOR A WARM CLIMATE.

How much ventilation should bees have in a climate where the temperature hangs close to 50° all winter, very seldom going down to the freezing-point, and where bees fly some every day or so? If we give them as much as $8 \times \frac{3}{4}$ we are bothered by robbers and also by yellow-jackets. I give mine $4 \times \frac{3}{4}$ on 8 frames, Hoffman, with one fly of burlap and four of paper over bees.

Bees need no protection from cold here—only protection from rain, which is hard on them, as it is rather cool in the spring in brood time. Do you think the chaff hive would pay for the extra trouble of handling?

Adna, Wash., Nov. 14. B. W. BLAKE.

[The question of size of entrance in your case would be dependent wholly upon the size of the colony and its ability to resist robbers. Your climate being so mild you will not need to contract the entrance to keep out the cold. Usually I would say that a full colony should have an entrance 8 inches by $\frac{3}{4}$; a weaker one about half as wide; a nucleus, perhaps one inch wide. But if robbers are bad these widths should be reduced about half. The chaff hives in your case would not be enough better to offset the added cost and inconvenience. — Ed.]

WILL AN APIARY CONTRACT FOUL BROOD FIVE MILES AWAY?

An apiary of 300 colonies within five miles of me, with a continuous swamp between, was completely demolished by foul brood the last two seasons. My bees are free from it as yet, I think. Do you think it would pay to move them on account of the same? I have some 300 colonies.

Macon, Ga., Nov. 11. JUDSON HEARD.

[We hardly think there will be any danger of your bees getting foul brood across the swamp. They are not liable to fly more than three miles from home. In case of an extreme dearth of honey, possibly they might fly far enough to rob out some of the hives infested with foul brood five miles away. To avoid any possibility of this it might be well to feed a little outdoors. Feed slowly, and dilute the syrup down so that it is very weak, about two pounds of water to one of sugar. — Ed.]

WHAT TO DO WITH UNSALABLE CHUNK HONEY; THE UTILITY OF A SOLAR WAX-EXTRACTOR.

I have quite a lot of chunk honey from transferring bees from old box hives into Danz. hives, and no market for such honey here, and I have no extractor. Can that honey be used to feed bees in spring, after heating it and taking the wax off when cold? Section honey is sold here at 10 cts. a pound, and broken comb from 6 to 8, and granulated sugar costs 6 to 7. Can that honey be diluted with water when the honey is granulated?

J. J. STOLTZ.

Park City, Mont., Nov. 16.

[I would recommend you to put the chunk honey you speak of in an ordinary solar wax-extractor. The honey and wax will run out together in the pans, the wax rising to the top. After it cools it can be removed and the honey fed to the bees. While you could give this chunk honey to the bees it would be better for you to convert the wax into money at once and give the bees the honey without the comb. — Ed.]

STEALING BEES; THE REMEDY.

I have had two hives stolen. I had taken out most from the top body. The thieves took the hives in the night, carrying them out in the field away from the house, tore out good honey, then threw the hive and brood down and left for home. I know pretty well who it is, but how can I prove it? The bees came back next day, what were alive; but it is so late, and having no queen or honey I don't know that they are worth saving. How can I protect them in the future? Would they do well in a shed? Are bee-houses a success? I don't know but if I would build a tight fence around them it would be all that is necessary. They are only a few rods from my house. I don't want to give up my bees. What can I do? Tamaroa, Ill., Oct. 11. G. M. AMES.

[About the best remedy for a case of this kind is to put up a sign at the bee-yard, offering \$100 reward for the arrest and conviction of parties tampering with or stealing your honey or bees. In most States there is a very heavy penalty for such kind of meddling. Thieves of this kind are usually afraid that somebody will "squeal," and after the sign is put up I do not think you will have any further trouble about their being meddled with. This remedy has been applied in a good many cases, and has worked very satisfactorily. While you may not secure the arrest and conviction of the guilty parties, you will probably prevent them from committing any more acts of trespass like this. House-apiaries are all right, but expensive.—ED.]

VENTILATING THROUGH THE HIVE-BOTTOM FOR WINTER AND SUMMER.

I wish to suggest a new kink. I've not tried it. It is to have a ventilator in the bottom-board to give plenty of air at all times, and such space covered on both sides with wire screen just coarse enough not to let the bees through; then there will be no need of so large an entrance; and in hot weather, when bees get to robbing, close the entrance and not smother the bees. By having such a ventilator the entrance need not be large enough at any time to admit a mouse. Those fellows make me some trouble.

I have been cutting alfalfa to-day, Oct. 3, and have not seen a bee in the field. There is plenty of bloom yet, as there has been no frost, except Sept. 15, and that did no damage to anything. They never do work on it much, and there are some seeds on it. I have had alfalfa growing for six years. I sometimes, when the entrance is large, put some loose blocks on the bottom-board under the frames to make a bridge for the bees to get on the combs in the middle of the hives. They should be loose when clearing off the bottom. M. W. MURPHEY.

Cuba, Ill.

[I doubt if it would be advisable to have the wire cloth of small enough mesh to exclude the bees. Dead bees and general ac-

cumulations of dirt would gather on it while in the cellar, to such an extent as practically to defeat the very object of its use. Better make the meshes large enough so the bees can go through, yet small enough to exclude mice. For summer use a wooden slide could close it up entirely when not needed.—ED.]

SCIATICA AND MUSCULAR RHEUMATISM CURED BY BEE-STINGS; THE CURE IN PROPORTION TO THE PAIN FROM THE STING.

I have been much interested in the articles on bee-stings curing rheumatism; and as a living example that they will do so in certain cases I will give my experience.

I am a locomotive engineer, and for 26 years I have been "shook" or "shaken" worse than any shook or shaken swarm, with the result that for years I suffered with sciatica and muscular rheumatism. At one time two doctors told me I would have to give up running an engine. Now my opinion is that bee-stings help rheumatism in proportion to the amount the person stung suffers from said stings. I have kept bees several years; but one sting on my hand will cause my arm to swell so badly that sometimes the skin will crack in places. There have been several times when I have been stung once; and before I could get into the house (a distance of less than 50 ft.) I would be covered with hives from my toes to the top of my head. I would have to be bathed all over my body with saleratus and water to stop the terrible itching; and my wife would say, "Do get rid of those bees; they will kill you yet." But I say, "I do not have any rheumatism." She thinks the remedy is worse than the disease. I have had the rheumatism only once since I got my first stings, and I let the bees sting me twice, and in less than five minutes it was gone.

Now, to prove my theory, one of my friends who does not suffer at all when stung had rheumatism. I caught some bees in a box, and he let them sting him, and it did not help him at all. Because they cured me I do not claim they will cure every one, though Mr. Archer (page 1072) thinks that, because he was not cured, the remedy is a failure.

F. P. BRIGGS.

Ayer, Mass., Nov. 21.

BEE-STINGS AND RHEUMATISM; THE BAD EXAMPLE OF THOSE HOLY (?) BEES IN STINGING.

In your issue for Oct. 1 you express a wish to hear from others relative to the efficacy of bee-stings as a cure for rheumatism. Let me say that, before I began bee-keeping, I was frequently troubled with that rather uncomfortable ailment; indeed, I may say I inherited a rheumatic tendency; but I was attacked with bee-fever about 35 years ago, and bought 25 colonies of Italians of Mr. King, the editor of a bee-paper in New York, now defunct. They cost me \$250. If I had been content with the Italians I might have had the rheumatism to-day; but I added to my apiary some Holy Land or Cyprian bees.

Holy Land! how they did sting! They knocked rheumatism and patience and good humor all out of me for the time being. I didn't keep them long, but my bees have never quit stinging since. I think the bad example of those holy (?) bees has never been quite forgotten by my previously well-behaved Italians: and even this past summer I have been the daily recipient of anywhere from three to three dozen stings; but I have no rheumatism, and for years I have had scarcely a twinge of it.

By the way, I am glad of a single remark in one of your footnotes about the peculiar crossness of this year's bees; viz., "but such crossness I have usually traced to a little infusion of the five-banded blood."

I wonder if those five-banded or golden Italians, of which I have recently introduced quite a number of queens, do not originate from the savage little Cyprians. Some of my handsomest five-banded bees are the crossdest little wretches that ever carried a sting. My experience tallies exactly with yours in this matter. Almost invariably I have noticed that the attacking parties have issued from one of either pure-golden or a mismated queen's half-golden progeny. I am not half so enthusiastic an admirer of the golden uniformed warriors as I was two years ago.

J. FERRIS PATTON.

Newtown, O., Oct. 11.

[We were obliged to weed out all the queens of the extra-yellow sort from our apiary next to the factory building because it had so many cross bees in it that it was not safe for teams to go through the yard. Since that time we have had very little trouble. The ordinary imported leather-colored stock is so gentle that one can usually work in the yard day after day without a veil. Yes, I have thought that this extra-yellow stock descended from this holy (?) stock, for—holy smoke!—how they could sting!

I understand that some of these strains of yellow bees were not cross, but I have never yet run across them.—ED.]

RHEUMATISM CURED BY BEE-STINGS.

I see a great deal is said about stings. I can add my experience with the rest. When I left Illinois I was almost a cripple from rheumatism. I arrived in California about 19 years ago. The climate helped me some; but after being 8 years here, I went into the bee business, and from that time on I have not had the least bit of rheumatism. I can be stung a hundred times, and it leaves no mark on me.

B. P. SHIRK.

Hanford, Cal.



GRIFFITH'S SHEDDED APIARY.

THE 4×5 SECTIONS.

I send you a couple of photos, one of one super from a Danzenbaker hive, swarm hived June 3 (natural swarm). The super was taken off July 15, and they now have that nearly complete. I had six swarms left from last winter, and increased to 15. I have taken off 260 lbs. of comb honey, and expect about 500 lbs. more. I wish to try for the premium at the State fair this year with the 4×5 plain section. There is one premium for the most attractive display. It was awarded to an exhibit in an oaken cross covered with glass. The other view shows my little apiary under a shed.

R. GRIFFITH.

Kenosha, Wis., Aug. 13.

[The person at the left of the pile of honey would indicate that a "better half" had a hand in the production of that honey. Beg pardon, may be she is a best girl. In either case GLEANINGS expresses its best wishes. Those little apiaries, while they may not make a big showing on the market, often bring a world of enjoyment to their owners. I judge yours is one of them.—ED.]

HOW TO SHIP 100 COLONIES OF BEES FROM CANADA TO JAMAICA.

I am thinking of shipping 100 colonies of bees from here to Montego Bay, Jamaica, about the 10th of next month. They would be in cellar at this date, and would require to be put in shipping condition in cellar. The temperature outside usually runs from zero to 20 above. Under these circumstances do you think I can make the shipment a success from apiary here? Bees would be moved to car on sleighs, then by car 750 miles to ship, thence by ship to Montego Bay; from there to apiary about 6 miles on wagons. The bees at Montego Bay would be gathering honey at date of arrival of my bees.

I would go in charge of the bees. I have had no experience in handling bees on cars or ship. I have moved bees on wagons with good success. If you think the shipment can be made a success, kindly advise how to put the bees in the best possible shipping order—what care they should receive *en route*, what part of the ship to be placed in; if each hive should be spread out or piled one hive on top another.

EDMOND I. BERRY.

Brome, Que., Canada, Nov. 11.



THE PRODUCT OF ONE SWARM IN SIX WEEKS.

[I think there will be no difficulty about shipping bees and having them hauled upon sleds or sleighs to the railroad station. In very cold weather they will not require very much ventilation, of course. The hives should be so prepared that the frames will be secure, and so that there shall be both top and bottom ventilation, when the bees get into a warm climate. It is better to have wire cloth covering the whole bottom and the whole top. There should be a rim about two inches deep nailed on top of the hive, and then on top of this the wire cloth. Arrangements should be made to give the bees water when they arrive at a point in the journey where it is very warm. The wire cloth on top can be sprinkled very liberally to advantage. Combs should not be too heavy with honey, and, of course, all ought to be wired. However, if you see to loading and unloading they might go through without wiring. In loading bees on a freight train be sure that the frames are parallel with the rails, not crosswise; in loading on a wagon it is better to have frames parallel to the axletrees. In a sleigh or sled it will not make very much difference how they are loaded. It would be advisable to strew about five or six inches of straw in the wagon and on the car bottom. This is to cushion the load of bees and allow a little for vibration. You want to make arrangements so that the bees on arrival at their southern destination are moved immediately. It would not be advisable to wait to get some drayman, but through correspondence have one ready as soon as possible when the bees arrive, or several of them. Bees ought to have a flight almost immediately on arriving at destination.]

Load the bees on shipboard on top of the deck in the shade where they can get plenty of air. If you can get the room, spread them out; if not, pile them up, but leave plenty of air space between. The hives will need to be secured to the deck to prevent being knocked around in a heavy sea.—ED.]

BEST TIME TO REQUEEN.

I wish to requeen. What is the best time for this—before, after, or during the honey-flow, or as early as possible in spring, or as late as possible in fall? My queens are not clipped. What is the best time for attending to that?

AUSTIN D. WOLFE.

Parkville, Mo., Nov. 21.

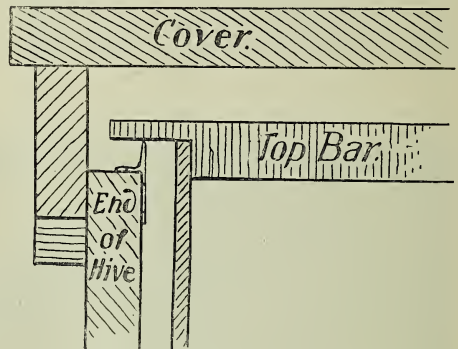
[The best time to requeen is immediately after the honey-flow, or main honey-flow. If you requeen in the spring you are liable to set the colony back by several days. Requeening can be done, however, *before* the honey-flow, without material loss, on the following plan: Leave the old queen in the hive; cage the new one, and leave her caged for two or three days while the old one is going on with her regular work. At the end of that time uncover the candy for the introducing-cage; dig out enough so the queen will be released in three or four hours by the

bees; and before closing up the hive remove the old queen. The new queen, having the scent of the old colony, will be accepted as soon as she is released, the presence of the old queen not interfering in the least. In this way a colony is requeened with hardly any loss of time.—ED.]

HIVE-RABBETS.

Seeing the account of Mr. Brunsog's manner of lengthening the top-bar by changing the hive-rabbit, page 609, and the subsequent comments, pages 636 and 848, impels me to send you a description of the rabbit as made in the hives, in use at the present time, in our apiaries.

Knocking out the rabbit and nailing on a cleat, as Mr. Brunsog does, is what we do exactly. We, however, drop the cleat down till the top edge is one inch below the upper edge of hive end. This arrangement will allow the frames to be picked up by the ends,



which is the correct way. The rabbit, as now made in the Dovetailed hive, is its weakest point. Before adopting our present style, quite one-half of our hives had the rabbets broken out, any way. The least tap is sufficient to break out a rabbit; and we have had them, when securely stuck to the cover, split out and come away with that.

Mr. Brunsog has improved upon hive-rabbets by giving more room in which to lengthen the top-bar, and giving a secure handhold; but he has, it appears, entirely lost sight of the most important point—access to the ends of the frames.

DR. L. E. KERR.

Germania, Ark.

[Your suggestion is a good one, and it is in one respect superior to Brunsog's in that it can be applied to hives already in use, and to covers already in use, by cutting out the rabbit by nailing on an extra cleat below the one already on the cover. But in another way it is open to a serious objection; namely, that such hives and covers and frames with extra long top-bars would not be interchangeable with other hives in use over the country, and to that extent it would be odd-sized and irregular.]

The average bee-keeper who has a considerable number of colonies is quite liable to

be either absorbed by some bee-keeper larger than himself, or to absorb the other fellow. Very often there is a bee-keeper in a locality who does a larger business than the rest. He makes his bees pay while his neighbors, owing to his own superior management, are not able to make a living. The big one, of course, would like to have all the territory to himself. The little fellows become discouraged, and are willing to sell out. They get their heads together and begin to talk business. Suppose each one has different kinds of hives or covers. The seller will have to sacrifice in order to strike a bargain; and the buyer will have to submit to all kinds of inconvenience by reason of the lack of interchangeability. I have seen this condition of affairs in many parts of the country; and when we attempt to make any radical departure we are obliged to put up with a great deal of inconvenience.—ED.]

THE NUMBER OF COLONIES TO A GIVEN LOCALITY; FEEDING IN THE FALL.

1. At my suburban home, three-fourths of a mile from the center of a city of 25,000 inhabitants, I have a hive of bees which for the last five years have averaged about 50 lbs. of honey. Within a radius of two miles there are probably not to exceed a dozen colonies. There is a fair succession of honey-producing flowers in this vicinity, though no very great abundance of any kind. This year's honey crop (which, by the way, broke the record, notwithstanding the fact that clover was practically nil) was about as follows: From locust, 23 lbs.; ailantus and catalpa, 27 lbs.; sumac, 20 lbs., all comb honey. Late this year I got two more colonies. How many more can probably be kept with profit in this locality?

2. When eight-frame Dovetailed hives are operated for comb honey only, the brood-chamber being left undisturbed, will the bees, in an average year, store enough honey to winter safely without fall feeding, especially where there is a good scattering of heartsease, asters, and goldenrod?

E. W. PEIRCE.

Zanesville, Ohio, Nov. 4, 1904.

[1. It is hard to estimate how many colonies could be kept in your locality—possibly 40 to 50, although the average per colony would be a little less than where you have only a few. It will, perhaps, be advisable for you to increase the number to 10 or 15. If these give you good average yields, keep on increasing until the average is materially reduced.

2. This is a hard question to answer, as every thing depends upon the season. With a year like that mentioned in question No. 1, an eight-frame hive would have enough, after taking away the surplus, to winter on, but generally the bees will require to be fed a little after all the honey but that in the brood-nest has been taken away. If you can exchange 3-cent sugar syrup for a winter food for 10 or 15 cent comb honey you can afford to feed a little.—ED.]

A SWARM OF DRONES.

I want to tell you about my new experience. I was watching the bees; and, imagine my surprise to find quite a swarm hanging high in a tree. So I got my step-ladder and hoop, and climbed up and captured my swarm, when I found it was only a bunch of drones and a very few workers. Can any one explain where they came from, and what would have become of them if I had not got hold of them?

Spearfish, S. D.

N. L. ANDERSON.

[This swarm may have been the remnant of a fertile worker or a drone-laying colony. As things were all going wrong they swarmed out just as stocks will frequently do when conditions are going from bad to worse.—ED.]

HOFFMAN SHALLOW EXTRACTING-FRAMES TOO LIGHT.

The Hoffman frame was pretty well discussed in the Oct. 1st issue. That frame suits me very well just as it is, and so does the division-board. I think it best at first to put one in at each side of the frames; if only at one side the comb next to the hive is often pasted to the hive because the space is too small; and would it not be well to have division-boards between all the combs, sash or frame, at first, till the combs are built straight, which would necessitate leaving out some frames at first till the division-boards have been removed? The division-boards should be made of slats like the fence in the supers, and such springs as are in the supers would be nice to keep up the frames in the brood-nest. As I said, the



Hoffman frame is all right in the brood-nest; but the extracting-frames that I got with the same shipment are very inferior. I would be willing to pay better prices if I could get such as are in the brood-nest.

Cuba, Ill., Oct. 5. M. W. MURPHEY.

[The extracting-frames have been made lighter to allow for more comb surface. To use a top-bar $\frac{7}{8}$ inch thick, in the extracting-frame only $5\frac{1}{8}$ inches deep, same as is used in the frame $9\frac{1}{8}$ inches deep, would make too great a disproportion, and cut down the comb space materially. We can very easily supply thick top-bars for such frames at a very slight extra price.—ED.]

WHAT AN EXTENSIVE USER HAS TO SAY OF HOFFMAN FRAMES.

I shall continue to use Hoffman frames with the V edge. I have used the square edges, and decidedly prefer the V. I have perhaps 10,000 of them in use, as well as a large number of unspaced frames. These last I shall gradually replace with Hoffmans. We run for extracted honey exclusively, using 9 frames in the super, and we find that the contention in regard to the projections of the end-bars being in the way while uncapping is almost entirely unfounded in actual practice, as well as other claims of their being harder to handle, etc. I am well aware that some will say that, by the use of 9 frames in the super of a ten-frame hive, we do away with the self-spacing feature of the Hoffman frame. But when we remember that it is desirable to have frames that are interchangeable from super to brood-chamber, all will be clear. Taking it all in all, I consider the Hoffman the best frame on the market to-day.

WILLIAM ROHRIG.

Tempe, Ariz., Nov. 12.

STORES NEEDED FOR OUTDOOR WINTERING.

Mr. Editor:—I notice that you say on p. 1059 that you figure on from 15 to 20 lbs. of honey to the colony for outdoor wintering. This may do for your locality; but it would be hardly safe for all to go on that plan. We need in this locality at least 10 lbs. more than that. I followed the advice of the A B C book for several winters, and allowed 25 lbs. per colony, and my bees generally came through the winter weak, and short of stores. I now leave 35 to 40 lbs. to the colony, and get much better results. My bees come out in spring strong in numbers and stores, with comparatively no winter loss.

HOFFMAN FRAME WITH SQUARE EDGES.

I hope you will make the Hoffman frame with square edges to the end-bars next year, as I prefer them; otherwise the frame suits me *very* well. I would not exchange it for any other frame that I know of, as it is. I use 7 frames in the surplus stories of an eight-frame hive, and discard the follower. I do not have very much trouble from propolis. I winter outdoors on summer

stands with no extra protection, in eight-frame Dovetail hives.

JAMES T. SHACKELFORD.

Napton, Mo., Nov. 27.

BABY NUCLEI; MATING QUEENS FROM BIG QUEEN-CAGES.

I am glad to hear baby nuclei are so much appreciated. This reminds me of something I did a few years ago. I never told you about it, but will now. One summer I raised so many queens in a lamp-nursery I did not have hives enough to introduce them as fast as they were hatched; then I put some in big queen-cages. I left them caged till I thought they were ready to fly; then I opened cages only after dinner, and to be sure said queens flew out and got mated. But as these cages had no combs to lay in, then the drawback came. D. E. BEST.

Best's, Lehigh Co., Pa., Oct. 26.

HOW TO READ GLEANINGS.

Owing to the privilege of discussion which is extended to readers of GLEANINGS, no one issue of the journal is complete. To pick up one copy and endeavor to get from it all it contains is like reading a chapter or two of a story and trying to imagine what has gone before. There are so many references made in each issue to things which have been printed in past issues, that, in order to get full benefit of the matter before one, constant reference must be made to back numbers.

There is also another peculiar feature of GLEANINGS, resulting, like the first, from the practice of discussion; and that is, the conversational tone of its articles. To open a journal is quite like stepping into a company of people earnestly engaged in discussing the various phases of a certain subject—one which has evidently been frequently discussed in like manner before. To get the full benefit of the present meeting, one should, therefore, have been present at the others, and it is just so with GLEANINGS.

To illustrate I will quote from the first page of the issue for Nov. 1. Six out of the eight Straws on that page are references to and further discussions of matter printed in the preceding issue. Only by having read, or referring to the former journal, can one grasp all the meaning of the subjects mentioned.

No ordinary memory can recall at a moment's notice just exactly what or all that has been said on any subject to which reference may be made again at some future time; hence it is a good plan to keep the last copy at hand until after the next is read. The way we have learned to do here is to hunt up the last one when the next is received, and sit down with both together. Then probably we shall have to go and get another or two of still earlier date before we are through with the last one. In this way nothing escapes us, for by the time we get through with any copy there is not much in it but has been mentally digested.

To any, if such there be, who feel that

they do not get all out of GLEANINGS that they might, I would recommend this plan of reading, or study, rather, for study it necessarily is. If read for a time in this way its value will be multiplied, especially to the farmer bee-keeper, who must use his spare moments to the best possible advantage, and yet who particularly needs just such concentrated knowledge as may be gathered from this and similar publications.

By the way, what has become of the "brushed swarm" advocates of two seasons ago? Undoubtedly many were led by the various articles on the subject printed in GLEANINGS and other bee-journals to try that plan of management. I should like to know if any have persisted with the system; and, if so, when they supersede their queens, and how often. This appeared to me as the principal drawback, for of course the old queen is brushed along with her bees. I have been expecting something on this subject before now, but so far have been disappointed.

MRS. MILLIE HONAKER.



Thou hast loved righteousness and hated iniquity; therefore God, even thy God, hath anointed thee with the oil of gladness above thy fellows.—HEB. 1: 9.

From childhood up I have been fond of the magazines. I used to read Harper's almost as long ago as I read the *Scientific American*; but even when a boy I used to get indignant at the ghost-stories because the magazine left them or chronicled them as if they were real facts. Later in life there were other things that seemed to me not exactly in the line of righteousness. Recently magazines have become much more plentiful, and so cheap they are now found in the homes of people in very moderate circumstances. A magazine is different from a newspaper inasmuch as it is expected to be edited with more care. The news given is supposed to be more reliable; and as the editor has a whole month to prepare it, the stories are supposed to be of a higher order, the work of our best-educated and talented men and women. There are Christian people, I am well aware, who object to fiction, but perhaps not as many now as there used to be; and the whole world now recognizes the value of choice fiction. It sends home truths, many times, that could not be gotten before the people in any other way. Well, for years past I have been tried and oftentimes indignant because of certain features of the fiction of the present day. We have now a large number of ten-cent magazines. They are offered for sale everywhere. I think they have largely taken the place of the ten-cent dime novels, and may the Lord be praised for it. But although these magazines contain so much that is grand and

good, and although they contain now and then some splendid temperance articles, there is one feature in them that is lacking—at least I have not been able to find a real wide-awake magazine, up to the times, that is not more or less faulty in this respect. The inclosed clipping from a daily newspaper tells it better than I can:

ALCOHOL INFLUENCING THE LITERATURE OF THE DAY.

PHILADELPHIA, Dec. 1.—The National W. C. T. U. adopted a resolution as follows: "We deplore the tendency of modern writers of fiction to assume that the bottle and the pipe are necessary adjuncts of many of their characters, and we recognize the statements of Dr. Crothers, the well-known authority on inebriety, 'that the use of alcohol is influencing the literature of the day.'"

I am not sure that the brewers' combine pay certain men for writing stories that would probably find their way into the average magazine; but I have suspected many times they were doing this. When you are traveling and have to wait for a train, a magazine comes in very nicely. You start in with a story, and it opens up with so much skill, and is so entertaining, you mentally thank God for the magazines with their able writers. The hero of the tale is pictured as one of the bright able men of the day. He does many things that we can not help admiring; but pretty soon he invites all hands to a bar somewhere for drinks; and the magazine article weaves it in with such rare skill that one is almost persuaded it were the thing to do under the circumstances. Blasphemy and foul oaths are brought in in the same way. No wonder the boys of the present age are encouraged to think it is the proper thing to swear ("until the air is blue") under certain provocations. Pipes and cigars are brought into the story in the same way. When I express my indignation to the younger ones of our family because of such a mixture of vileness and indecency they reply, "O father, you must not expect every thing of a periodical that does not claim to give us religious literature. Sort out the good and let the bad go, or skip it."

There is one particular magazine that began a grand work in exposing the iniquities of our great cities. Our minister has frequently mentioned this magazine in a way that would lead his hearers to think it was one that the whole family should read; and yet in one number there were stories that seemed to indorse in strong terms not only whisky, tobacco, and gambling, but there were stories to the effect that prize-fighting might be all right under certain circumstances. The great world does not always know what good reasons(?) the prize-fighter might have for following his profession. A little further on in the same story this same hero was represented as excusable for encouraging something worse still. When I called our pastor's attention to the pernicious effect of these very ingeniously written pieces of fiction he said he had not noticed it until I pointed it out; and he seemed to think it was not a matter of very great importance after all. Well, he may be right,

or partly so; but I can not give up that I am entirely wrong. I agree with the W. C. T. U. resolution quoted in the above extract. I think it is a shame and an outrage that our story-writers should help the saloon, especially when there is such a terrible conflict going on in regard to the rum business all over the world.

One of the speakers at one of the Anti-saloon meetings threw a banner across the stage with the heading, "A barrel of whisky or a bushel of Bibles." He said that, at a recent meeting of the Liquor League, one of the speakers told us to bring on our Bibles, as big a stack as we pleased, and he said he would beat us all out of sight with a barrel of whisky. I am exceedingly obliged to him. I have several times wished that the whole world could read some of the liquor papers—the *Wine and Spirit News*, for instance. I wish the people who declare the Anti-saloon League does not amount to anything would read these liquor publications. Evidence furnished by the enemy would probably be credited. The question that lies before us, dear friends, is, when boiled down, Which will come out ahead—the Bibles or the whisky-barrel?

During one of the sessions in Columbus it was my pleasure to meet and get pretty well acquainted with Miss Lucy Page Gaston. Many of our readers will recognize her as having charge of the department of the W. C. T. U. work in a crusade against cigarettes. Several States in the Union have passed laws that I believe are well enforced against both the manufacture and sale of cigarettes; and from the expression given through our papers and everywhere else, we would suppose almost every man, woman, and child, with the exception of the cigar-makers, and venders and users of the same, would vote against cigarettes. Miss Gaston told me that the protest seemed to be so great and universal she supposed there would be no question about getting a prohibitory law. As soon as the crusade was well under way, however, the manufacturers of cigarettes declared that the proposed law should not be passed, even if it cost them a great sum of money—I think it was something like \$100,000. They would spend this enormous sum of money rather than see their lucrative business cut off, even though that business involved the making of idiots and imbeciles of our schoolboys. And yet these same magazine articles indorse cigarettes. They tell us of fine ladies who make their gentlemen friends presents of cigarette-holders, etc.

If you will read the current papers you will see the brewers are getting to be greatly worried. The Anti-saloon League all through the United States is making wet territory dry at such a rapid rate the brewers are feeling it keenly; and they are leaving no stone unturned, not only in holding their own, but to hunt up new territory.

At the Anti-saloon League congress we had a delegate from the Indian Territory. He begged our indulgence, at the opening

of his talk, if he spent a little time in giving a sketch of what the Indians are doing in the way of civilization. He said we would see the application a little later on if we were patient. Then he told us about the good farmers among the Indians, of the merchants, manufacturers to some extent, of their schools and churches, periodicals, and of their wealth. I suppose you all know that, up to the present time, there have been very stringent laws against selling intoxicants to Indians. When I was in Arizona I asked my brother *why* they were so very emphatic about prohibition among the Indians. He explained it was because they were only partly civilized. When an Indian is drunk he is a savage again, or perhaps a maniac. He is on the war-path and on the war-dance with a whoop and a yell. He kills without care or regard, not only enemies, if he has any, but his own family as well. An Indian, when drunk, is a maniac—a mad man. By the way, it seems a little funny it has never occurred to our law-givers and law-makers that there are quite a few *white* people who are not much better off. Well, this delegate from the Indian Territory told us the brewers had their eye on these Indian villages and cities. A petition is now before Congress to permit them to introduce beer among the Indians. What excuse do they give for such a petition? Well, it is something like this: They say the Indians are now sufficiently civilized so they are able to judge for themselves, like white men (?) as to when they have had enough to drink, or as to whether they ought to drink at all. They would thus elevate the savages to a position of *dignity*, where they will be able to rule themselves instead of being subjects of legislation, etc. Now, this delegate actually plead and begged that great convention to pass resolutions and send personal protests to Congress, urging that no such petition be granted; and he gave us a picture of what would surely happen were beer-saloons allowed in the Indian Territory. He said there was no doubt the brewers would reap a rich harvest; for the Indians, after they once get started, would spend every thing and sell every thing for drink.*

Now, then, friends, again, which is to rule in this nation of ours—a "bushel of Bibles" or a "barrel of whisky"? When it comes to voting on the manufacture and sale of cigarettes, are respected, educated Christian people to decide the matter, or is the \$100,000 belonging to the makers of cigarettes to decide in regard to our laws? Miss Lucy Page Gaston, when she told me her disappointments and defeats in her line of

* Since the above was in type I see by the dailies that the brewers are putting up buildings all through the Indian Territory, where, they tell the people, beer is to be sold as soon as this matter comes before Congress; or, in other words, they are going to open up beer-selling among the Indians unless the people make too much fuss about it, as they did about the canteen in the army, for illustration. Now, friends, we want not only the prayers of Christian people, but we want such a loud protest that it will be heard and felt to the very ends of the nation.

Christian work, seemed downhearted and discouraged. She said everybody was willing to assent that cigarettes *ought* to be banished, but they were not ready to do any thing particularly. She rejoiced to know that the heads of great factories as well as railroad lines decline to employ a man who uses cigarettes; but that when it came to legislation there seemed to be a general belief that, where great factories are making money, and paying a big lot of taxes, they could not very well be interfered with. Now to go back to that newspaper extract:

It is not at all surprising that the use of alcohol is influencing the literature of the day. If there is any thing that the liquor-business is not influencing, I should be glad to know it. The W. C. T. U. has been instrumental in introducing text-books throughout the United States, warning the children against the evils of intoxicants. But we were informed at the convention that the liquor-dealers are making vehement protests against these same school text-books; and they have got some men who stand pretty well up, to agree to help them in getting these books out of the schools. They claim it is out of place, etc. Now, if the schools of our land are not the place to warn our children against intemperance, where in the world is the place?

May be I am finding a good deal of fault with this land of ours and of what is going on; but I am not by any means unmindful of the glorious things that are being done, and of the good men we have in high office. It was my good friend Miss Gaston who wrote our President, and received a letter saying he had never used tobacco in any way, shape, or manner, and that it was very unlikely he ever would use it.* No wonder he takes such a stand as this when we take a glimpse of that bright family of a goodly number that is growing up around him. I have just seen a brief statement in one of the dailies that President Roosevelt has already expressed his disapproval of letting the brewers carry beer into the Indian Territory. May God guide and give our President courage and wisdom to stand his ground.

In our last issue I told you of the business of a "procurer." He is employed to get hold of young women who get off the trains in the great cities unattended. I am glad to tell you that the Y. W. C. A. has established itself so well in the depots of nearly all of our large cities that they have a competent woman to look after unattended girls. I have met members of this organization in different cities, and have thanked God for the work they are doing. In this connec-

tion I should make a great mistake if I should fail to mention Miss Helen Gould and the grand work she is doing for her fellow men and women. May God be praised for at least *one* woman who has great wealth and is using it for the purpose of lifting up and protecting her sisters.

In the opening of my talk I complained a little about *Harper's Magazine* as it used to be in my boyhood. I am now going to say something in favor of the Harper publications. It was one of my happy surprises when I found the following in *Harper's Weekly*:

The standard of manners among smokers seems to be low. The men who bring lighted cigars into street-cars and the cars of the elevated railroad, the men who crowd the back platform of surface-cars and smoke in the face of every passenger who crowds past them to get on or off, clearly and scandalously disregard the rights of others. They are usually men who, judging from their outward appearance, ought to know better. But they don't seem to know better. They don't seem to appreciate that their behavior is an imposition on public patience. These street-car smokers ought not to be tolerated, and we hope that an inclination recently disclosed by the health authorities and the railroad officers to get after them will bear prompt and effectual fruit.

There are fit places for tobacco-smoke, cigarettes, and cigar-stumps. Out of place they are all offensive. To smoke in the street is inexpedient at best. To carry a lighted cigar into any house, into any shop, elevator, waiting-room, or vehicle is bad manners, ranging in degree, according to circumstances, from inconsiderateness up to boorishness. Women, as a rule, don't smoke, and careful consideration for their wishes as to tobacco should always be shown by smokers while in their company.

If every magazine in our land would give place to a similar editorial it might do more good than anybody can ever measure; and if every one who reads our current magazines would send a nice little note to the editor, protesting against the stories that even indirectly encourage vice and intemperance, I think we might soon have some stories just as interesting at the same time that they uphold "righteousness" and discourage "iniquity."

SELLING "SECRETS;" OR, "HOW TO DO THINGS" FOR A SUM OF MONEY.

Our older readers will remember how pronounced and decided I have always been against this practice. First, whoever gets a dollar or more for any secret ought to furnish a decent-sized book according to the amount of money charged. If he does not do this, and sends only a few directions printed on a single slip of paper, the recipient could copy it for his neighbors, or, better still, have it published for the benefit of all. Of course the vender sometimes exacts a promise not to divulge the secret; but I would always object to making any promise not to divulge what would be of benefit to my fellow-man. Now, I want to give you an illustration from a transaction from real life. In several of our automobile journals we have the following:

DON'T THROW those worn-out tires away; none so bad but that can be fixed at small cost. A revelation. Write to-day. P. B. FELLWOCK, Evansville, Ind.

After reading the above I recalled I had two "played-out" automobile tires that

*This matter came about, so Miss Gaston told me, something this way: Mrs. Carrie Nation was denouncing the grown-up men who set an example before the boys of using cigarettes; and in her vehement reckless way she declared that President Roosevelt was a user of cigarettes. Several remonstrated at this, and finally Mrs. "Carrie" said, "If you will prove to me that President Roosevelt does not use cigarettes I will donate \$50 to your anti-cigarette crusade." I asked Miss Gaston if Mrs. Nation turned over the money as agreed when she found out she was mistaken. She replied it had not as yet been forthcoming.

cost \$15 to \$18 each. One of them had run less than a year, yet the manufacturer said it was good only for scrap. What do you suppose the shrinkage in value is between the first cost and "scrap" value in less than a year? Well, all they wanted to allow me for the scrap was 36 cents. Accordingly, I was in just the right mood to write to Mr. Fellwock. Here is his answer:

Mr. A. I. Root:—Regarding my method of repairing auto tires, I am pleased to say that, after exhaustive tests, much trouble and expense, I have at last found a quick and sure way to make even a very badly worn tire last a great while longer. The method applies to either single, double, or clincher tires, but it is more and exceptionally satisfactory on the single-tube type. It is best adapted to 2½-inch or 3-inch tires. It is simple but effective, having all the advantages of solid rubber tires, devoid of punctures, as it requires neither air nor pump.

To be brief, it is a filling that is placed within the tire. It requires no tools, and can be done by any one in an hour's time. Big holes, blow-outs, or long cuts anywhere about the tire are no barrier to this method. It can be done with a cheap or a better material. The cost of the former on a 2½x28-inch tire will be less than \$2.00, and the cost of the better will not exceed \$3.50 per tire. I strongly recommend the latter, as it can be taken out after the tire is completely worn, and be placed in another one. The material for this purpose can be bought in any city of any size.

I have owned an automobile for over two years, and my tire troubles have been many; but I now consider them overcome, and feel much relieved at the thought. Furthermore, rubber tires are sky-high, and the end of advances is not yet in sight; so it pays thus to use up those old cast-off and considerably worn-out tires, and give the tire-manufacturers a chance to catch up with the demand and again price their product within the reach of all. This is made possible by my method of prolonging the life of your tires.

The price of recipe, with complete instructions, is \$3.00. Detailed directions accompany each recipe, which will be promptly mailed upon receipt of \$3.00 in cash, check, or money order.

I am not compelled to make any side money, as my income is ample; but I am an auto enthusiast, and feel that, by spreading my method, I do a good turn to many, and many more good turns to your tires. But as this takes time and money I feel justified in calling for the above fee. Remember, the better grade of material can be used in a number of tires, which is a decided saving in time and money.

P. B. FELLWOCK,
Evansville, Ind.

The above letter made me still more anxious to have his valuable secret, especially as there is not a word said about giving the recipe to others; so I made haste to send the \$3.00 so I might give the discovery to the readers of GLEANINGS. Below is what I got for the money:

THE "\$3.00 SECRET."

Buy of some rubber concern 2-inch best-quality rubber balls. They cost about \$1.00 per dozen, and it takes 44 balls for a 2½x28-inch tire. The Day Rubber Co., of St. Louis, handles a suitable ball. Now, at the tire cut a gash at the inner side of the tire as if you were inserting an inner tube; cut similar gash at the opposite inner side, punching holes one inch apart and one-half inch from the edges—these for the lacing. Ram the balls in the casing with a bent iron bar or crooked stick. Be sure that every ball is driven home—an all-round tight fit is essential. The last ball may have to be trimmed slightly; then lace up the gashes, and your tire is ready for business.

A cheap 2-inch ball can be bought for about 50 cents per dozen; but they will crush, and are not as resilient as the better quality. For a 3-inch tire it takes a 2½-inch ball, but it is well to measure carefully the inside of the tire, as some have a heavier stock than others. Big holes about the tread can be covered with patches from other old tires, and will stay in place a long while, as there is no pressure outward. Clincher tires are somewhat harder to handle; and as there are so many different makes it is hard to give directions; but there is some way of fastening the outer casing of every style. In the heavy-base tire it may be necessary to cut a hole in the tread to get in the last few balls; but this hole

can be patched up as above stated, and give good service.

If your old casing is pretty well worn, and limber, lace it on to the rim to insure the stay of it. In ramming in the balls, do not hit them with the bar, but use a round block of wood three inches long that fits loosely in the tire. This will absorb the shock and protect the balls while being driven in. Such tires should be used for front wheels only, as the traction duty on rear wheels is too severe.

Yours truly,
Evansville, Ind., Dec. 5.

P. B. FELLWOCK.

Well, I have spent a good deal of money in purchasing recipes for making artificial honey, how to catch absconding swarms, etc.; but I believe the above is the most reasonable of any of them. By the way, I forgot to mention in the proper place that there is one *other* objection to selling secrets. Almost without exception they are something that is already in print. I paid a man \$1.00 for a recipe for making artificial honey, and found, after I got it, it was printed word for word in Dr. Chase's "Receipt-book;" and after reading the above I was reminded that the suggestion of using rubber balls instead of inner tubes has already appeared in print in some of the automobile journals.

Now, I do not suppose this recipe is worth \$3.00 to every reader of GLEANINGS; but we will say there is one man in a thousand who can use it for automobiles, bicycles, or something of that sort. In that case it would be worth pretty nearly \$50.00 to our family. By the way, he admits in the above that it is suitable only for the *front* wheels, and, if I am correct, that it is not very practicable for clincher tires—the kind that is mostly used on all automobiles. Never mind. I have had some *more* experience in purchasing secrets.

FAKE WEATHER FORECASTS.

Under the above heading the *Country Gentleman* for Nov. 10 gives a very valuable paper from the New York State Director of the United States Weather Bureau. Commenting on the above they add:

It is many years since the *Country Gentleman* gave final quietus to the wheat-turning-to-chess nonsense, by the simple expedient of offering a reward, we believe of \$500, for a root bearing the stems of both plants, competitors being required to deposit some small sum as a forfeit in case the stems should prove to be merely twined together. Needless to say, not a single sample was ever presented. We believe the time has now come for extinguishing the long-range weather-forecast nonsense. We therefore beg to say that we will pay \$500 dollars for a correct prophecy of the weather for any month selected by the prophet six months in advance, under simple and perfectly fair conditions to be formulated in the (extremely improbable) event of anybody's desiring to try his hand at the undertaking.

In addition to the above I will give \$1000 to the weather-almanac prophet if he will even give us any reasonable forecast of what any month will be in any given locality. There is one particular point where people who have faith in these long-range forecasters seem to be weak. Almost every month has some marked peculiarity, some very *unusual* feature in regard to the weather. Now, if these forecasters had any knowledge at all of the future they would certainly put emphasis on this peculiar thing.

As an illustration, the month of November has been almost unprecedentedly fine weather, and *good roads*, in consequence of little or no rain (the dryest ever recorded by the Weather Bureau) over a very large area. The automobilists have been rejoicing (and I hope thanking God) for an almost entire November with good smooth roads. There has been just enough rain to lay the dust, and nothing more. Now, friends, turn to your fake almanac. The prediction is, of course, for usual November weather—cautions about caring for stock, etc., but not a word about a *dry November**. Nobody has as yet applied for the \$1000 offered for one pound of manufactured comb honey. Like the editor of the *Country Gentleman* I am not at all afraid anybody will come for this last \$1000 offer. Hicks is just now "giving himself away," as I take it, by heaping abuse on the Weather Bureau, because they denounce him as a fake, although he admits they do not call him by name. It looks to outsiders as if he not only recognizes the "coat," but even *makes haste* to "put it on."

FURNISHING TOBACCO FOR JAILS, INFIRMARIES, ETC.

A subscriber sends us the following from the *Terre Haute Tribune*:

TOBACCO NOT ON PARIS JAIL FARE.

Paris, Ill., Dec. 9.—The county board of supervisors does not propose to encourage the use of tobacco by allowing each prisoner of the county jail, addicted to the habit, ten cents a week to satisfy his craving. This custom, which was first introduced at the State penitentiaries, has been in effect here many years. The county board balked when a six-months' tobacco bill was presented, and decided to abolish the custom.

The above looks like progression. I never could exactly understand how our people expect to make bad men better by allowing them ten cents a week, or any similar sum, for tobacco. Most men, when they turn to serve the Lord Jesus Christ, cut off tobacco at the outset. Some years ago an inmate of our infirmary, with whom I was somewhat acquainted, came around in a new suit of clothes, making calls on his friends. When I congratulated him he said he petitioned to have the amount in cash that other inmates were allowed for tobacco. This cash bought the suit of clothes, and he felt so proud of them that he was granted his liberty to go and see his friends. The ten cents a week may be all right. In fact, I like the idea; but in this age of progress can not our public officers think of some better incentive to hold up before these poor unfortunates than to suggest to them this sum is given to purchase tobacco with? I congratulate the

managers of the Paris jail, and hope others may be moved to follow their example.

THE ARMY CANTEEN.

We clip the following from that grand agricultural home journal, the *Rural New-Yorker*:

The so-called "army canteen" or government rum-shop comes up for discussion frequently. Congress abolished the canteen several years ago, not because the army authorities or congressmen generally wanted to, but pressure from temperance people became too great to be resisted. Now there is an effort to compel Congress to change front and re-establish the "canteen." The *New York Times* puts the case as follows:

If one asks why, then, does not Congress authorize what all the experts agree to be so desirable, the only answer is that Congress goes in fear of a number of misguided persons who know nothing about the matter, and who have no right to an opinion upon it. If these people would kindly mind their own business, and refrain from trying to impose their ignorant views of the subject upon the law-making body, the canteen would be restored without opposition.

We are not arguing about the canteen now. We do not need to. It is surrounded by the worst collection of human hornets' nests that ever waited for a stirring-up. Whoever touches it will need the longest pole that a politician ever tried to handle. The way Congress was forced into this action on the "canteen" question is a good object-lesson. When farmers were fighting against the oleo fraud they were told in much the same way to mind their own business, and not "impose their ignorant views upon the law-making body." Somehow these "misguided persons" kept at it, and the "law-making body" found that it must listen or be cut up and put together again. It listened and acted! So it will be with rural free delivery of the mail, and so it will be with a parcels post and the exposure of the wire-fence humbug. What a world this would be if the common "misguided people" would only mind their own business, and let the politicians run things to suit themselves! Somehow the people are coming to see that, among other "ignorant views" of public matters, one worth thinking about is the fact that this "law-making" body is the servant, not the master, of the people! The postage-stamp is the weapon of freedom in this country.

Good for the *Rural*! If this thing keeps on, we shall soon have a government "of the people, by the people, and for the people."

A TESTIMONIAL TO THE GOOD WORK THE ANTI-SALOON LEAGUE IS DOING.

The *Wine and Spirit News* says, "The Anti-saloon League has accomplished more than any other organization formed in a similar time. It will capture the church, the church will capture the state; then God have mercy on the rest of mankind, if we are permitted to live at all."

We are exceedingly obliged to our friends the enemy for this splendid tribute paid to our organization. I suppose no one will for a moment doubt its truthfulness, coming as it does from the very worst enemy the Anti-saloon League has. Dear brethren, we do not propose to let saloon-keepers live at all as saloon-keepers; but we do propose to give them all the assistance we possibly can in some honorable business that is for the benefit of humanity in general.

THE NEW SPENCER SEEDLESS APPLE.

I notice our agricultural papers are cautioning their readers about paying big prices for a tree of the above apple. In some cases they have been sold as high as \$3.00 each. Of course, we are glad to welcome a

* We notice by the papers that the drouth during the latter part of November is so severe in Kentucky that several of the great distilleries have been compelled to shut down for want of water. (How sad it is to think that the supply of "Kentucky whisky" is likely to be curtailed!) Now, why did not Bro. Hicks tell us of this remarkable and wide-spread drouth during the latter part of November? He might at least have said, "Something very remarkable" will happen about this time. And, come to think of it, it is "something remarkable" that he did not say it.

new thing; but let the experiment stations test it first. We are told by those who are unbiased that the apple is hardly average in quality, that it has quite a little core in all specimens, and in some one or more seeds. A newspaper clipping has been sent me that seems to have come from the Toledo Blade, from which I extract the following:

The seedless apple was produced by John F. Spencer. He has been growing trees for seven years in an experimental way, which have been examined by the Department of Agriculture, at Washington, and pronounced not only a seedless and coreless apple, but an entirely new species of apple.

Now, although the above does not say the apple is of good quality, it would be inferred; and we should be very glad to know if the Department at Washington has really given it the above indorsement. Appearances at present would indicate it may ultimately be classed with mushroom and ginseng growing, so much advertised to help poor men and women earn money at home.

A CLEAN FARM PAPER.

Are you interested in having one for your family to read? If so, write for a

Free Sample Copy of the Modern Farmer.

It is clean and helpful on every page, and does not contain whisky, patent-medicine, or fake ads. It is just the paper to put in the hands of your children, if you want them to live honest and upright lives, and love their home surroundings.

BEE-KEEPERS' CLUB.


Modern Farmer, one year.....	\$ 50
Silk Front Bee Veil.....	50
Gleanings in Bee Culture, one year.....	1 00
Langstroth on Honey Bee.....	1 20
American Bee Journal (new only).....	1 00
	\$4 20

All of the above only \$2.50; first two, \$.50; first three \$1.25; first four, \$2.10. New subscribers for the A. B. J. can substitute it for Gleanings if they wish. Renewals for A. B. J. add 40 cents more to any club. Western Bee Journal can be substituted for either bee paper. No changes will be made in any of these offers. Write for OTHER CLUBBING OFFERS, and a price list of bee supplies very cheap.

E. T. ABBOTT, St. Joseph, Mo.

SPRAY PUMPS

The Pump That Pumps



MYERS

Glass Valve

SPRAY PUMPS

Double-acting, Lift, Tank and Spray

PUMPS

Store Ladders, Etc.

HAY TOOLS

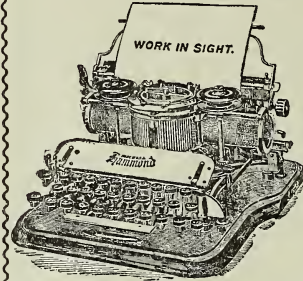
of all kinds. Write for Circulars and Prices.

Myers Stayon Flexible Door Hangers

with steel roller bearings, easy to push and to pull, cannot be thrown off the track—hence its name—"Stayon." Write for descriptive circular and prices. Exclusive agency given to right party who will buy in quantity.

F. E. MYERS & BRO.
Ashland, Ohio.

It's Not Your Neighbor's Fault



if your correspondence hasn't the neat appearance that has made

Hammond
Typewriter
Work

famous the world over.

It's up to You to Examine a Hammond.

In five minutes you will see more exclusive features than you ever imagined possible in a typewriter. Award first Gold Medal at St. Louis Exposition.

GENERAL OFFICE,
69th St and E. River, New York City.
Cleveland Office, - 249 The Arcade.

Our Specialties

Cary Simplicity Hives and Supers, Root and Danz. Hives and Supers; Root's Sections, Weed Process Foundation, and Bingham Smokers.

Bees and Queens in their Season.
32-page Catalog Free.

W. W. Cary & Son,
Lyonsville, Mass.

.....Special Notice to Bee-keepers.....

BOSTON

Money In Bees for You.
Catalog Price on

Root's Supplies

Catalog for the Asking.

F. H. Farmer, 182 Friend St. Boston, Mass.

— UP FIRST FLIGHT —

FREE!

A Subscription to Bee Journal One Year

with order of \$5.00 or over. Cheapest place in the United States to buy your supplies.

One and one-half story Hive, \$1.00; Sections, Hives, Berry Baskets and Crates by the Car Load. Wholesale and retail. Send for free list.
W. D. SOPER, Rural Route 3, JACKSON, MICH.



